103 131 the natives *Kuſhi*, and by the *Ruſſians Kuriles*. The exact number of thoſe iſlands cannot be aſcertained; but, according to the verbal accounts which were gathered from the *Kuriles*, and the natives of the ſouthernmoſt iſlands, and from the *Japaneſe*, who were driven by diſtreſs of weather upon the coaſt of *Kamtſchatka*, they are reckoned to be twenty-two. Perhaps they do not take the ſmall ones into this number: for by the account of captain *Spanberg*, who went as far as *Japan*, there appears to be a great many more; but as the ſaid captain found it difficult to give them *Ruſſian* names, all of them that had any relation to the *Kurilskoy* names, except the two that lay neareſt to *Matma Kunatin*, were allowed to keep their former appellations.

133 136 161 651 *Schumtſchu* is the neareſt iſland to the *Kurilskaya Lopatka*, and extends in length from the north-eaſt to the ſouth-weſt 50 verſts, and in breadth about 30. This iſland is full of mountains, out of which, as alſo from the ſmall lakes and marſhes, many little rivers run into the ſea. In ſome of them are found different kinds of ſalmon, and ſeveral other fiſh, but not in ſuch plenty as to furniſh the inhabitants with proviſions for a winter. Upon the ſouth-weſt point, near the ſtreight that is between this and the ſecond *Kurilskoy* iſland, are three *Kurilskoy* ſettlements, that contain only 44 inhabitants; ſome of whom pay the taxes in ſables and foxes, but the majority pay them in ſea-beavers' ſkins.

The inhabitants of this iſland, as well as thoſe of the *Kurilſkaya Lopatka*, are not the right *Kuriles*, but are of the race of the *Kamtſchadales*: for ſome diſſentions having ariſen between the inhabitants of that nation, ſoon after the *Ruſſians* entered the country, a large party of them retired here and to the *Lopatka*; where they became connected, by mutual inter-marriages, with the people of the ſecond iſland, whoſe particular cuſtoms they have adopted, and from thence have received the name of *Kuriles*.

132 that a man cannot ſtand upon his feet. Theſe winds, which
136 generally rage the three laſt-mentioned months, bring a great
quantity of ice upon the ſhore of the *Lopatka* and *Awachinſkaya*
bay, with a multitude of ſea-beavers: about this time, therefore,
132 is their beſt ſeaſon for catching theſe animals. The north winds,
either in ſummer or winter, bring agreeable clear weather; but
the ſouth and ſouth-weſt winds in ſummer are attended with
rain, and in winter with ſnow. And although the cold is not ſo
great, yet the air is always heavy and thick, and at ſea generally
attended with great fogs, as our people, who went upon the
American and *Japan* expedition, experienced: therefore ſailing in
ſuch weather is as dangerous as living upon the land is diſagreeable;
and this agreement of the weather of *Kamtſchatka*
with what is found far out at ſea is to be attributed not only to
neighbouring countries, but likewiſe to the great and extenſive
Southern Ocean. Hence the northern parts of *Kamtſchatka*, that
are ſheltered from the ſouth wind, are both more fertile and enjoy
a better climate; and the nearer one comes to the *Lopatka* the
moiſter and thicker is the air in ſummer, and the winds more
violent and of longer duration in winter. It frequently happens,
that about the Great River the weather is very calm and agreeable,
while at the *Lopatka* the inhabitants cannot ſtir out of their
huts; becauſe it is a narrow point of land, and expoſed to every
wind, except in the bay. All along the *Penſchinſka* ſea, the more
northernly any place lies, the leſs rain have they in ſummer and
wind in winter. The winds and weather about the mouth of
the *Kamtſchatka* river, and near to the upper *Oſtrog*, are very
changeable. From the eaſt and ſouth-eaſt they have as violent
ſtorms as about the *Penſchinſka* ſea; but yet, compared with
this, the weather is more frequently fair than rainy. The difference
between the eaſtern and weſtern parts of *Kamtſchatka* is
plainly to be ſeen in travelling from the head of the *Biſtroy* river:
for towards the *Penſchinſka* ſea the air appears always thick and
hazy,

however the agitation of the waters was leſs than what had been /133 formerly obſerved. The earthquakes are ſaid to be more violent near a mountain that burns, than near one that has left off burning, or is not quite kindled.

Beſides theſe mountains, I heard of two other gulphs where ſmoke ariſes: one is called *Joupanoſky*; the other, *Sheveliitche*; but there are ſeveral places farther north than the river *Kamtſchatka*: ſome of which emit ſmoke, and ſome fire: and there are in the *Kurilſki* iſlands, one upon the *Paromuſir*, and another upon the *Alaide*; concerning which Mr. *Steller* obſerves, that it is only one hill which burns, not a whole ridge; all theſe mountains have outwardly the ſame appearance, and it is, therefore, probable that their conteſits are much the ſame; that from the external appearance, one may judge of their internal contents, and of their aptneſs to take fire and burn; and that in all theſe which have ſmoked or burned formerly, but have been extinguiſhed, lakes are always found; whence he concludes, that as theſe were burnt down to the bottom, the waters ruſhing through the opened paſſages, filled the empty ſpace; and hence an account may alſo be given of the cauſe of the hot ſprings.

There are two hills which have left off burning; the *Apalſky*, out of which riſes the river *Apala*; and the *Biloutchinſky*, from which comes the river *Biloutchik*. At the bottom of this /136 hill is a lake, where vaſt numbers of herrings are caught in the months of *March*, *April*, and *May*.

CHAP.

CHAP. VI.

Of the LAND ANIMALS.

THE principal riches of *Kamtſchatka* conſiſt in the great 136 number of wild beaſts: among which are foxes, ſables, ſtone foxes, hares, marmottas, ermins, weaſels, wolves, rein-deer wild and tame, and ſtone rams. Their fox ſkins in the thickneſs, length, and beauty of their hair equal, if not excel, all the foxes of *Siberia*; beſides there are in *Kamtſchatka* almoſt all the different ſpecies of foxes which are to be found in other places, ſuch as the red, fiery, blue-breaſted, or marked with a black croſs, the cheſnut, black cheſnut, and the like; and ſometimes white foxes are found there, but theſe very ſeldom. It is remarkable, that the more valuable 224 foxes are the moſt cunning; ſuch are the black cheſnut, the 177 blue-breaſted, and the fiery coloured; ſo that not only the *Kamtſchadales*, but even the *Ruſſians* find it difficult to catch them. It happened while I was at *Kamtſchatka*, that the Coſſacks tried for two winters to catch one black fox which frequented the Great River, without being able to effect it. The moſt uſual method of taking them is either by poiſon, traps, or bows. The poiſon is thrown in lumps in the freſh tracts; the traps are ſet upon the ſides of hills, baited with a live animal; and for the greater ſecurity two or three of the traps are placed upon one hillock, that whatever way the foxes approach they may fall into one of them; and this is found neceſſary, for thoſe, which have been once in danger from the ſtroke of this trap, proceed afterwards ſo cautiouſly, that they eat the bait without being ſeiſed; but, with all their cunning, it is difficult for them to eſcape the

224 ſeveral traps, which ſeize them ſometimes by the head, and ſome-
177 times by the foot. The method of killing them with the bow
is thus: the hunters muſt know exactly how high to place it;
when the bow is bent, it is faſtened to a ſtake driven into the
earth near which the fox's tract is obſerved, and then a cord
drawn from the bow-ſtring, is ſtretched very tight over his or-
dinary path; and ſo ſoon as this cord is touched with the foot of
the fox, the bow is diſcharged, and the arrow pierces the very
heart. Theſe are the inventions of the *Ruſſian* Coſſacks; for
formerly the *Kamtſchadales* gave themſelves no trouble about
the foxes, not valuing their furrs much more than dogs' ſkins.
They pretend they could have killed as many as they wanted
with ſticks, and that foxes were formerly ſo numerous in *Kamtſ-
chatka*, that when they fed their dogs, they were obliged to
136 drive them away from the trough: and though this may ſeem
224 improbable, yet it is certain, that even now they are in great
plenty near the forts, which at night they enter without any ſeem-
ing apprehenſion of danger from the dogs of the country, which
either cannot catch them, or, not being bred to it, do not mind
them. It happened when I was there, that one of the inhabitants
catched ſeveral of them in the pit where they keep their fiſh.
The beſt time to hunt foxes is, when the earth is hard frozen,
before the ſnow falls, as it is then difficult for them to dig out
the rats' neſts, which they do when the earth is thawed, the rats
224 being their chief ſupport. The *Kuriles*, who live upon the
286 *Lopatka*, catch foxes in a manner peculiar to themſelves. They
have a net made of the hair of whales' beards, compoſed of ſe-
veral rings; this is ſpread upon the ground, and to a ring in the
middle they bind a magpye; round the net is drawn a cord,
the ends of which are held by a perſon concealed in a pit
near at hand, who, when the fox ſprings upon the bird, draws
the cord and gathers together the net, which ſurrounds the fox
as the drag net does a fiſh.

The ſables of *Kamtſchatka* excel all other ſables of *Siberia*, 136
both in largeneſs, thickneſs of hair, and brightneſs; but in point
of blackneſs they do not come up to thoſe of *Olekmine* and *Vitime*:
however their other properties are ſo valuable, that the
Kamtſchatka ſables have by much the preference; and in *China*,
where they know how to improve the colour, fetch ſo great a
price that few of them are brought into *Ruſſia*. The ſables of
Tegbil and *Oukine* are moſt eſteemed, and are ſometimes ſold
for thirty rubles a pair. Mr. *Steller* ſays, that the worſt are
hunted about the *Lopatka* and *Kurilſkoy* ſeas. It often happens
that the worſt kind of ſables ſhall have their tails ſo black and
thick haired, that they will ſell dearer than any other.

Before the conqueſt of *Kamtſchatka* there was ſo great a 224
plenty of ſables that one hunter would kill ſeventy or eighty 651
in a year; and that not for the ſake of the furr, but the fleſh, 435
which they eſteem very delicious. The inhabitants at that time 136
willingly agreed to pay their tribute in ſables; and were glad
to receive a knife for eight, and an ax for eighteen. Some
merchants have gained in one year by furrs only more than
thirty thouſand rubles. The ſables are ſtill in much greater
plenty here than in any other country, as is obſerved by
every one who has been upon the ſpot, and compared their
tracts upon the ſnow with what are ſeen either upon the rivers
Lena or *Beloy*, and this even in the neighbourhood of the
forts. And if the people of *Kamtſchatka* were as induſtrious in 224
hunting as thoſe about the *Lena*, they could ſell a great many 461
more than they; but ſuch is their natural lazineſs, that they 426
never kill more than what they muſt pay in tribute, and what 185
will pay their debts. They look upon him as an extraordinary
good hunter that kills ſix or ſeven ſables in a winter; and ſeveral
are not able to furniſh their tribute furrs, but muſt borrow either
from the *Ruſſian* Coſſacks, or ſome more induſtrious hunter of

224 their own country, to whom for payment they are bound to
426 work the whole enſuing ſummer. Their baggage when they go
185 to hunt conſiſts of a net, a bow and arrows, a fire-ſteel with
461 flint and tinder. When they find a ſable concealed either in the earth or under the root of ſome tree, they throw the net over the place, in which he entangles himſelf when he comes out. With the bow and arrows they ſhoot them when they fly to the trees; and the ſteel and flint are to ſtrike fire, by which they ſmoke them, and drive them out of their holes. The beſt hunters, to be nearer the game, go out with their whole families to the hills, where they build huts and live the whole winter.

224 Although the ſtone foxes, and hares, abound in *Kamtſchatka*,
237 yet hardly any one thinks it worth his trouble to hunt them,
136 their furrs being of ſmall value; and when they fall into the fox traps, they uſe their ſkins as coverings in their beds. The *Kamtſchatka* ſtone foxes are little better than the hares of *Touroucban*, which are very bad, the hair eaſily falling off. *Steller* relates, that ſome uſed to ſew the tails of the ſtone foxes to the hare-ſkins of *Touroucban*, and impoſe them upon the ignorant as true ſtone fox-ſkins, the thickneſs of the ſkin and furr making it difficult to diſcover the cheat.

Marmottas * abound every where in *Kamtſchatka*. The *Koreki* uſe their ſkins for cloaths; and, indeed, they are reckoned no ordinary dreſs, being both light and warm. *Steller* compares
136 the furrs made of the backs of the marmottas to the ſpotted feathers of birds, eſpecially if ſeen at a diſtance; and he alſo ſays, that this animal is found both upon the continent and the

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* Marmotta minor. GMEL.

Iſlands of *America*. When they eat, they ſit upon their hind 136
legs like a ſquirrel, and hold their food, which is roots, berries, 224
and cedar nuts, with their fore feet. They are pretty to look
at, and whiſtle ſurpriſingly loud. No body thinks [1]his
while to hunt ermines *, weaſels †, or common marmottas ‡,
unleſs by chance they meet with them; ſo that one cannot
reckon ermines amongſt the furrs of *Kamtſchatka*. But there is 825
a creature of the weaſel kind, called the glutton ‖, whoſe furr 237
is ſo greatly eſteemed above all others, that when they would 301
deſcribe a man moſt richly attired, they ſay that he is cloathed 291
with the furr of the glutton. The women of *Kamtſchatka*
dreſs their hair with the white paws of this animal, and reckon
them a very great ornament. However, the *Kamtſchadales* kill
ſo few of them, that they not only have not enough for exportation,
but even import ſome from *Jakutſki* at a very great
price. They put the greater value upon the furr of the glutton 825
the whiter and yellower it is, although every where elſe this ſort is 435
deſpiſed: nay, they eſteem it ſo much, that they ſay the heavenly
beings wear no other garments than of this furr; nor can
they make their wives or miſtreſſes a greater preſent than
of one of theſe ſkins, which was formerly ſold for thirty, and
even ſixty rubles; and for the two paws which the women wear
in their hair, they ſometimes give one, and ſometimes two ſea
beavers. The greateſt number of theſe gluttons is found near 136
Karaga, *Andirſka*, and *Kolima*. They have a ſurpriſing dexte-

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* Ermineum majus. Gmel.

† Erminеum minor. Ejuſdem.

‡ Marmotta vulgaris. Ejuſdem.

‖ Muſtella ruſo-fuſca, medio dorſi nigro. Linn.

O 2 rity

[1] [Original torn. Probably "it worth"

136 rity in killing of deer, which they practiſe in this manner :—They climb up ſome tree, carrying with them a parcel of ſuch moſs as the deer uſe to eat. This they let fall from the tree, and if the deer [1] eat it, they throw themſelves down upon his back; then faſtening themſelves between the horns, they tear out his eyes, and give him ſo much pain, that the miſerable animal, to put an end to his torment, or if poſſible to free himſelf from the cauſe of it by deſtroying his enemy, ſtrikes his head againſt the trees, which generally kills him. No ſooner is he brought down than the glutton divides his fleſh carefully, and hides it in the earth, to ſave it from being ſeized by any other creature; and never eats a bellyful before he has done this. In the ſame manner, upon the river *Lena*, they deſtroy horſes. They are eaſily tamed, and are capable of learning ſeveral tricks. It has been ſaid, but we never heard it aſcertained, that they carry their gluttony to ſuch a degree as to be obliged to relieve themſelves by ſqueezing their over-ſwoln bodies between two trees to unburthen their bellies of the inſufferable load. Thoſe that are tamed are not ſo voracious; but perhaps theſe animals are not alike in all countries.

Bears and wolves are ſo numerous here, that they fill the woods and fields like cattle; the bears in ſummer, and the
136 wolves in winter. The bears of *Kamtſchatka* are neither large
752 nor fierce, and never fall upon people, unleſs they find them aſleep, and then they ſeldom kill any one outright, but moſt commonly tear the ſcalp from the back part of the head; and, when fiercer than ordinary, tear off ſome of the fleſhy parts, but never eat them. The people who have been thus wounded, are called *Dranki*, and are frequently to be met with. It is remarked here, that the bears never hurt women; but, in the ſummer, go about with them like tame animals,

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[1] [Original torn. Probably "Comes to."

eſpecially when they gather berries. Sometimes, indeed, the bears eat up the berries which the women have gathered, and this is the only injury they do them. 136 752

In the ſeaſon, when the fiſh enter the mouths of the rivers in vaſt ſhoals, great numbers of bears come down from the hills, and ſettle in proper places for catching them; which they do in ſuch plenty, that they only eat and ſuck the bones of the heads, neglecting the bodies; but when this plenty is paſt, they are glad to gnaw the bones which they formerly deſpiſed. They frequently ſteal fiſh from the fiſhing huts of the Coſſacks, although there is always a woman left to watch them. To her indeed they never do any hurt, ſatisfying themſelves with what fiſh they can find. 136

Before the introduction of fire-arms, they uſed ſeveral devices for killing the bears. Cutting ſeveral billets of wood, they ſtop up the mouth of the den with them, which the bear draws in that his paſſage may not be ſhut up. This they continue until he is ſo ſtraitened in his den that he cannot turn himſelf; then they dig down from above, and kill him with their ſpears. The *Koreki*, in order to catch the bears, ſeek out ſome tree that is crooked above, upon which they faſten a ſnare, and behind it place ſome proper bait; which the bear endeavouring to ſeize is held faſt by the head or the paw. They place heavy logs of wood, in ſuch a manner, that they will fall with the leaſt touch and cruſh them. Another method is to lay a board driven full of iron hooks in the bear's tract, and near to that they place ſomething that eaſily falls down; this frightening the bear by its fall, he runs upon the board with greater force; and finding firſt one fore paw wounded and ſeized by the hooks, he endeavours to free himſelf by beating the board with the other; thus both being fixed, he reſts on his hinder legs, which cauſes the board to riſe before his eyes, 224

exquiſite pain that the bear can make no further reſiſtance, and 224
allows the hunter to lead him wherever he pleaſes, or ſtab him
with his knife, without any danger.

The *Kamtſchadales*, however, look upon it as an affair of 224
ſuch conſequence to kill a bear, that whoever has this honour, 574
is obliged to feaſt all his neighbours; at which entertainment
the bear's fleſh is the principal diſh; and, as a trophy, the bones
of the head and thighs are hung round about their huts.

Of the bears' ſkins they make their beds and coverings, caps, 237
gloves, and collars for their dogs. The fleſh and fat are their 262
moſt delicate food; and the fat, when melted, is thin, and might 293
be very well uſed with ſallad. With the guts they cover their
faces in ſummer to keep off the ſun: ſometimes they uſe their
ſkins as ſhoe-ſoles, to prevent them from ſliding upon the ice;
and with their ſhoulder-blade bones, made ſharp, they cut
graſs.

From the month of *June* to the end of harveſt the bears are 136
very fat; but in the ſpring they are lean and dry. In the ſto- 825
machs of thoſe killed in the ſpring nothing is found but a frothy 237
ſlime: whence the inhabitants maintain the general opinion, that
the bear has no food throughout the whole winter, but ſupports
himſelf by ſucking his paws.

Although, as has been related above, wolves abound in *Kamtſ-
chatka*, and their furrs are in great eſteem for cloaths, yet few
are caught there. They differ in nothing from the wolves that 136
are found in other places. By their cunning and fierceneſs they
do more hurt to the inhabitants than their furrs bring profit;
for they kill not only the wild deer, but even herds of the tame,
notwithſtanding the latter have always a watch. Their fa-
vourite morſels ſeem to be the tongues of the deer, or even
of the whales that are thrown upon the ſhore: they ſometimes
ſteal the hares and foxes out of the traps and ſnares. White

wolves

136 wolves are very ſeldom ſeen here, and therefore they are much
262 more eſteemed than the grey. Although the *Kamtſchadales*
237 are called univerſal eaters, yet they never eat the fleſh of either
wolves or foxes. The deer and ſtone rams may be reckoned
among the moſt uſeful of all the animals in *Kamtſchatka*, becauſe
their ſkins are moſt uſed in cloathing. The inhabitants, however,
kill but few in proportion to the great numbers that are in
136 this country. The deer live in moſſy places, and the wild rams
224 upon the higheſt mountains; ſo that the hunters of the wild rams
237 leave their dwellings in the beginning of harveſt, and taking all
their families with them go to the hills, where they are employed
in this chaſe until the month of *December*. The wild rams
reſemble goats, but their hair is like the deers'. They have two
horns that are twiſted round like the *Ordinſky* rams, but much
larger. The horns of thoſe that are of full age weigh each of
them from 25 to 30 pounds. They run very ſwiftly, throwing
their horns back upon their ſhoulders; ſpring over rocks, and run
upon the narrow ledges of the moſt dangerous precipices. Cloaths
made of their ſkins are very warm. The fat upon their haunches
is equal to that of the deer, and the fleſh is a moſt delicious food.
Of the horns they make ladles, ſpoons, and other ſmall utenſils;
and the horn entire they carry upon the road at their girdles,
and uſe it for a bottle.

136 There are three kinds of rats; the firſt of which is of a brown
colour, as large as the greateſt houſe-rats in *Europe*: but their
cry is very different, reſembling the ſqueaking of pigs; otherwiſe
they are very like our common rats. Of the ſecond kind there
are but few, and theſe in the houſes, where they run about
without fear, and live upon any offals. The third ſort have
a diſpoſition ſomewhat like the drones among bees, laying up no
manner of proviſion, but ſtealing their food from the firſt kind,
which live in the fields, woods, and high mountains, in great
numbers.

numbers. The tegulchitch, or firſt kind, have neſts very /136 roomy, neat, and ſpread with graſs, divided into different apartments; in ſome of which they lay up the ſaranne quite clean, in others rough; in others, again, ſeveral ſorts of roots, which they gather in ſummer with great labour, and lay up againſt winter. In dry ſunny days they drag theſe out of their neſts, and dry them. During the ſummer they live upon berries, and what elſe they can find proper for their food; never touching their winter proviſion ſo long as they can find any food in the fields. Among the ſeveral things found in their neſts, I obſerved the ſaranne, the anacampſerus, biſtort, goats-beard, burnet, and cedar nuts.

Theſe rats change their habitations like the wandering tartars, /136 and ſometimes for a certain number of years they all leave 825 *Kamtſchatka*, and go to ſome other place. This retirement is 787 very alarming to the *Kamtſchadales*, who think it forebodes a rainy ſeaſon and a bad year for the chace: but when theſe creatures return, they confidently expect a fine one and good hunting; ſo that, as ſoon as they begin to re-appear, expreſſes are ſent to all parts to carry the good news. They always take their departure in the ſpring, firſt gathering together in vaſt numbers. They direct their courſe due weſt, croſſing rivers, lakes, and even arms of the ſea; and when, after long ſwimming, they reach the ſhore, they lie upon the banks, as if they were dead, 'till at length they recover their ſtrength, and then ſet out again upon their march. Their greateſt danger in the water is leſt ſome ravenous fiſh ſhould ſwallow them up: but upon the land they have nothing to fear; and the *Kamtſchadales*, who are ſo greatly intereſted in their preſervation, when they find them weak upon the banks of the rivers or lakes, they give them any aſſiſtance in their power. From the river *Pengin* /136 they go ſouthward, and about the middle of *July* they generally reach *Ochotſka* and *Judoma*. Sometimes their troop is ſo nu-

136 merous that travellers muſt wait two hours before they paſs. They return commonly to *Kamtſchatka* about the month of *October*. It is ſurpriſing that ſuch ſmall animals, in one ſummer, can paſs over ſuch an immenſe tract of land; and one cannot but admire the order and regularity which they obſerve in their march, as well as the foreknowledge they have of the change of weather.

825 Some of the inhabitants aſſured me, that when they go out of their neſts they cover their proviſions with poiſonous herbs, to deſtroy other rats that may come to rob their ſtore; and that, if all their winter proviſion is taken away, and nothing left that they can eat, in the ſtead of their own ſtores, they ſtrangle themſelves for vexation, ſqueezing their necks between the forked branches of ſhrubs: for which reaſon the *Kamtſchadales* never take away all their ſtore, and even pay for what they take by putting in either dried caviar, or ſomething that will ſerve the poor creatures for ſuſtenance. Although all theſe circumſtances are related by the moſt ſerious of the *Kamtſchadales*, yet we muſt not implicitly rely on their authority, before the facts are better enquired into.

231 The dogs of *Kamtſchatka* are extreamly like the common village dogs, and are white, black, ſpotted white and black, or grey like the wolves; brown or other colours being very rare. They are eſteemed ſwifter and longer-lived than any other dogs; and this may be attributed to their light ſimple food, which is fiſh. In the ſpring, every one lets his dogs run at liberty, without taking any care about them; for they can be uſed for travelling only while the ſnow is on the ground. They then feed upon what they can get in the fields, where they dig for the mice; and in the rivers they, as well as the bears, catch fiſh. In the month of *October* the *Kamtſchadales* call them home, and tie them up near their huts, 'till they loſe a good deal of their fat, that they may be lighter for the road, and then one hears

CHAP. VII.

Of the VITIMSKY SABLES, *and the Method of hunting them.* 000

ALTHOUGH the ſable-hunting of *Vitimſky* does not properly belong to the deſcription of *Kamtſchatka*, yet as in treating of the latter we have had occaſion to mention the ſable, I thought it might not be amiſs to give an account of the various methods of this chace in different places. The *Kamtſchadales* do not ſtir out for a fortnight or more after 224
a piece of ill-luck, or having hunted one day without game; 777
but the *Vitimſky* hunters ſpend almoſt the whole year in continual toil, and are very happy, if, in that time, they catch ten ſables for each man in company. It is true indeed, that ten com- 000
mon *Vitimſky* ſables are equal to forty of *Kamtſchatka*: but, notwithſtanding, if the inhabitants of *Kamtſchatka* would take the ſame pains as thoſe of *Vitimſky*, they might exceed them in the profits of hunting; for ſables are as numerous in *Kamtſchatka* as ſquirrels are upon the river *Lena*. The *Vitimſky* hunting is the more remarkable for being ſubject to many rigorous laws and ſuperſtitious obſervations, which the hunters bind themſelves to obſerve.

Before *Siberia* was conquered by the *Ruſſians*, it abounded 136
with ſables; but, at preſent, wherever the *Ruſſians* are ſettled, none can be catched; for ſables retire at a diſtance from all inhabited places, and live in deſolate woods and mountains. The ſable hunters go up by the river *Vitime* and the two rivers 000
Mama, which fall into that river, as far as to the lake *Oronne*, which is upon the right hand, as high and higher than the great cataract, where the beſt hunting is. The fineſt ſables are caught upon

000 upon the little river *Kutomale*, which falls into the river *Vitime*, upon the right hand above the cataract and mouths of the lower *Mama* and the brook *Petrova*. Lower than theſe places the ſables are conſiderably worſe; and all the hunters agree that nearer the heads of the rivers the ſables are better, and nearer the mouths ſtill worſe.

136 The ſables live in holes, like other animals of their kind; ſuch as martins, weaſles, and ermines. The hunters alſo relate, that they build themſelves neſts upon the trees with rods and graſs; that they ſometimes lie in their neſts and ſometimes in their holes; that in ſummer as well as in winter they lie about twelve hours in their holes or neſts, and in the other twelve they go about to ſeek their food. In the ſummer time, before the berries are ripe, they feed upon weaſels, ermines, or ſquirrels, but chiefly upon hares; and in the winter upon birds. When the berries ripen, they eat cranberries and hurtleberries, but principally thoſe of the ſervice-tree, which cauſes them to itch and rub themſelves againſt the trees, by which they wear off the hair from their ſides. Hence it happens, when the ſervice-berries are very plentiful, that the hunters loſe their labour.

The ſables bring forth their young in their holes or neſts, about the end of *March* or the beginning of *April*; and have from three to five at a time, which they give ſuck to from four to ſix weeks.

000 They never hunt ſables but in winter, for in the ſpring they caſt their hair; which in the ſummer is very ſhort, and even in the harveſt does not come to perfection. Such ſables are called *nedaſobili*; that is, imperfect ſables; and ſell at a low price.

The ſable-hunters, both *Ruſſians* and natives, begin to ſet out for hunting about the end of *Auguſt*. Some *Ruſſians* go themſelves, and others hire people to hunt for them, giving them proper cloaths and inſtruments for hunting, and proviſions for the time of their being out. When they return from the

chace

how many ſables or other beaſts their party has killed, and if 000 any of their parties have done any thing contrary to his orders and the common laws. Theſe crimes they puniſh differently: ſome they tie to a ſtake, others they oblige to aſk pardon of every one of the company; a thief they beat ſeverely, and allow him no ſhare of the booty; nay, they even take his own baggage from him, and divide it among themſelves. They remain in their head-quarters until the rivers are free of ice; and after the hunting they employ their time in preparing the ſkins. As ſoon as the ice is all gone off the rivers, they ſet out, in thoſe little boats which they came in, on their return home, where they give the ſables to the ſeveral churches to which they promiſed them; and then, having paid their tax-furrs, they ſell the reſt, dividing equally the money, or goods, which they receive for them.

CHAP. VIII.

136

Of the SEA BEASTS.

UNDER the name of ſea beaſts are here underſtood ſuch animals as are called amphibious, which, although they live for the moſt part in the water, frequently come upon the dry land, and upon, or near it, bring forth their young. Water beaſts may be divided into three claſſes: 1ſt, Thoſe which live in freſh water lakes, and rivers, as the otter. 2d, Thoſe which live in freſh or ſalt water, ſuch as ſeals. 3d, Thoſe which are never found in freſh water, ſuch as ſea beavers, ſea cats, and others.

Although otters be very common in *Kamtſchatka*, yet the 136 price is not low; a very indifferent ſkin will coſt a ruble. They 225

225 commonly hunt them with dogs when the ſnow comes in driſts,
237 and they wander at too great a diſtance from the river. They uſe their ſkins to make borders round their garments, but principally to preſerve the ſable-ſkins, which are obſerved to be preſerved better, when wrapt in otter-ſkins than any other way.

136 It is incredible to think what a number of ſeals there are in the ſeas and lakes of that country, eſpecially when the fiſh come up the rivers, which they follow in droves, not only to the mouth, but even far up the ſtream. So numerous are they that all the iſlands or ſand-banks are quite covered with them, inſomuch that ſmall boats are in great danger near theſe places. When the ſeals obſerve any boat approaching they throw themſelves in great numbers into the water, which makes ſuch a motion in it as will overſet the canoes or ſmall boats, if they go at once into it. No animal has a more diſagreeable cry, and their noiſe is inceſſant.

There are reckoned to be four ſorts of this animal; the very largeſt of which is catched from 56° to 64° of north latitude. This ſort only differs from the others in its bulk, which exceeds that of a large ox. The ſecond ſpecies is about the ſize of a yearling bullock. Their ſkin is of different colours, ſomething like the ſkin of a tyger; having ſeveral ſpots of equal largeneſs on the back, with a white and yellowiſh belly. Their young ones are as white as ſnow. The third is yet leſs than the former. Its ſkin is yellowiſh, with large cherry-coloured circles, which take up near the half of its ſurface. The fourth kind is ſeen in the large lakes of *Baikaal* and *Oronne*. Its ſize is like thoſe that are found near *Archangel*; and their colour is whitiſh.

They are very vivacious: I ſaw one, that was taken by a hook in the mouth of the Great River, throw itſelf upon people with great fierceneſs, even after its ſkull was broken into pieces. I obſerved that he was no ſooner brought on ſhore than he began to try to run again into the river; and when he found that this was impoſſible, he began to weep; and when they beat and bruiſed him, it only made him more fierce and wild. 136

The ſeals never go farther from the ſhore than 30 leagues; and are moſt commonly to be found near the mouths of great rivers or bays: they will follow the fiſh 80 verſts up a river. They bring forth only one young one, which they nouriſh with two breaſts. The *Tunguſi* give the ſeals' milk to their children for a medicine. The old ſeals cry like one that ſtrains in vomiting, and the young like people groaning through pain. When the tide goes out they lie upon the dry rocks, and in play puſh one another into the water; but when they begin to be angry they bite one another very cruelly. They ſleep very ſound: but, being awakened by the approach of any one, they are in very great fear; and haſtening towards the ſea, to make the way ſmoother, as is ſuppoſed, they vomit out water.

There are different ways of killing them: In the rivers 225 they ſhoot them with ſcrewed-barrelled guns; but they muſt be careful to hit the head, becauſe a hundred bullets will not do them the leaſt hurt in any other place, as they all lodge in the fat that covers their body. They ſearch for them upon ſhore, and ſurpriſing them in their ſleep kill them with clubs: or when they ſleep, laying their ſnout upon the ice, they drive a knife quite through the ſnout, which being faſtened to a long thong they drag the animal out.

The ſeals are not ſo dear as one would imagine the many uſes 237 they put them to ſhould render them; for, beſides the uſe of their fat and fleſh, the ſkins of the larger ſort ſerve for ſoles of ſhoes. The *Koreki*, *Olutores*, and the *Tchukotſkoi*, alſo make boats or baidares with them of different ſizes, ſome even ſo large that they will carry thirty men. Theſe boats have this advantage over

825 were filled with gruel and the ſeals made of graſs, and gave one
796 to each fiſher. They then went all out of the hut, and cried
Uenic; a word they uſe in calling to one another when they
782 go to kill the ſeals or other ſea animals. Then taking out the ſeals made of graſs they threw them into the fire, praying them to make them frequent viſits; after which, returning into the hut, they put out the fire, and eat the gruel that was in the bowls.

136 The ſea horſe is but ſeldom ſeen about *Kamtſchatka*, and then only in the moſt northernly places. The moſt are caught near the cape of *Tchukotſkoi*, being both larger and more numerous there than any where elſe. Their teeth are what we commonly call fiſh-bone, the price of which depends upon their largeneſs or weight: the deareſt are thoſe that are about twenty pounds; but theſe are ſeldom met with, or even ſuch as weigh ten or twelve pounds, the common weight being five or ſix pounds.

The ſea lion * and cat, in their uſual ſtructure, differ very little from the ſea horſe and ſea calf, and are therefore to be reckoned of the ſame kind.

Some call the ſea lions ſea horſes, becauſe they have manes. In their ſhape they are like the ſea calf; and their necks are bare, excepting a ſmall mane of hard curled hairs: the reſt of their body is covered with a cheſnut-coloured hair. They have a middle-ſized head, ſhort ears, a ſnout ſhort and drawn up like a pug dog's, great teeth, and webbed feet. They are found moſt frequently about rocky ſhores or rocks in the ſea, upon which they climb very high, in great numbers. They roar in a ſtrange, frightful manner, much louder than the ſea calf; and they are thus far of uſe to people at ſea, that in foggy weather, by their roaring, they warn them of rocks or iſlands being near, as few rocks or iſlands in this part of the world are without theſe animals.

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* Leo marinus. STELLER.

Although in appearance and ſize this animal ſeems to be very 136
dangerous, and marches with ſuch a fierce mien that he looks like
a true lion, yet is he ſuch a coward, that at the ſight of a man
he hurries into the water; and when he is ſurpriſed aſleep, and
awakened either by a loud cry or blows with a club, he is in
ſuch fear and confuſion, that in running away he falls down,
all his joints quaking with terror; but, when he finds no poſſibility
of eſcaping, he will then attack his enemy with the greateſt
fierceneſs, ſhaking his head and roaring very terribly; and then
the boldeſt muſt ſeek to ſave himſelf from his rage. For this 225
reaſon the *Kamtſchadales* ſeldom kill the ſea lions at ſea, unleſs
when they can ſurpriſe them ſleeping there, but generally upon
land; and when they find them aſleep on ſhore they approach
them with great caution, going againſt the wind. But none
dare undertake this game, but ſuch as can truſt to their ſtrength
or their heels. Stealing upon them, they ſtrike a knife into their
breaſt under their fore paw; the aſſiſtants in the mean time
tying a cord made of ſea calf's ſkin, which is faſtened to the
knife, about a ſtake. Then every one runs off as faſt as he can,
and endeavours at a diſtance to wound him with arrows, or
knives, which they dart at him; and at laſt, when his ſtrength
is quite waſted, they diſpatch him with clubs.

When they find them aſleep at ſea, they ſhoot poiſoned arrows
at them, and get off as faſt as poſſible. The wounded animal,
unable to ſuffer the pain ariſing from the ſalt water in the poiſoned
wound, runs himſelf aſhore, where they kill him outright
with darts or arrows; or if the place is not ſafe for ſuch an
attack, they wait until he dies of his firſt wound, which follows
in 24 hours. This game is ſo honourable among the natives, 554
that the man who has killed moſt of theſe beaſts is eſteemed the 225
greateſt hero: for this reaſon many engage in this dangerous
hunting, not only for the fleſh, which is looked upon as very
delicate, but rather for the honour that attends it. Two or

Two or

225 three ſea lions are a great load for their boats; and, as it is
502 eſteemed diſhonourable to leave any game which they have caught, they ſometimes ſo overload their boats, that, though they are very expert in the management of them, they and their game go to the bottom together. In theſe veſſels they go to the deſert iſland *Alaide*, which lies out at ſea about thirty miles, and are ſometimes carried four, five, and even eight days without ſeeing any land, expoſed to the cold of theſe climates; and without any compaſs, they return to their habitations by obſerving the ſun or moon.

237 Of the ſkins of the ſea lion they make cords, ſhoe-ſoles, and
136 ſhoes. The female has two, three, and ſometimes four young ones. They couple in the months of *Auguſt* or *September*; and are pregnant about ten months, as they generally bring forth their young about the beginning of *July*. The male treats the female with great tenderneſs, not like the ſea cat, but by fondneſs endeavours to gain her affection. Both male and female ſeem to take very little care of their young, frequently ſtifling them under their paws as they ſuck; nor do they ſhew
136 any concern at ſeeing them killed before their eyes. The young are not lively nor full of play, like moſt other young animals; but are almoſt continually aſleep. Towards the evening the male and female ſwim out to ſea with their brood, but not far from the ſhore. The young climb upon the mother's back, and reſt themſelves; the male in the mean time playing about toſſes the lazy puppies into the water, to oblige them to learn to ſwim. Some of them have been thrown into the ſea, but inſtead of ſwimming away they haſten again to land. They are twice as large as the young of the ſea cat. Although theſe animals naturally run from a man, yet it has been obſerved that they are not always ſo wild; particularly when their young have ſcarcely learned to ſwim. Mr. *Steller* lived ſix days in a high place amongſt whole herds of them, and out of his hut ſaw

ſeveral of their actions. The animals lay around him, ſeeming to obſerve his fire and what he was employed about; and never ran away, although he even went amongſt them, and ſeized ſome of their young for his diſſections, but remained quite at their eaſe. They went about and quarrelled for their miſtreſs without being diſturbed by his preſence; and one male fought three days for a female, and was wounded in more than a hundred places. The ſea cats never take any part in their quarrels, but endeavour to get out of the way as far as they can, giving place to them; nay, they never hinder the puppies of the ſea lion from playing with them, taking all care not to hurt them in the leaſt: but the ſea cats ſhun the company of the ſea lions as much as poſſible.

The old beaſts are grey about the head, and certainly live to a great age. They ſcratch their head and ears with their hinder paw, as the ſea cats do; and their manner of ſtanding, going, lying, and ſwimming, is the ſame. The great ones low like an ox, and the young bleat like ſheep: the old ones ſend forth a ſtinking ſmell, but not ſo much as the ſea cat. In winter and ſummer they do not always live indifferently upon all places; but ſeem to have their ſtations proper for the ſeaſon. They are never found further north than 56°, although in great plenty about *Kamtſchatka*, and the iſlands of the *American* coaſt. Their food is fiſh, ſeals, ſea beavers, or other water or land animals. The old ones eat little in the months of *June* or *July*, when they only lie and ſleep, and thence become very lean.

The ſea cat is about half the ſize of the ſea lion; in form reſembling the ſeal *, but thicker about the breaſt, and thinner towards

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* *Frederick Marten*, in his voyage to *Greenland*, thus deſcribes the ſea dogs, called *Rubbs* or *Seals*: 'Their teeth are 'ſharp like dog's teeth; on their toes 'they have black, long, and ſharp 'claws; their tail is ſhort; they bark 'like hoarſe dogs, but their young mew 'like cats. When they are frightened by

towards the tail. They have a ſnout longer than the ſea lion's, and larger teeth; with eyes like cows' eyes, ſhort ears, naked and black paws, and black hair mixed with grey, which is ſhort and brittle. Their young are of a bluiſh black colour.

The ſea cats are caught in the ſpring and in the month of *September*, about the river *Shupanova*; at which times they go from the *Kurilſkoy* iſland to the *American* coaſt: but the moſt

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by any noiſe, they hold up their noſes very high, and make a long neck like our greyhounds, and bark; and when thus alarmed we ſtrike them with half pikes, or long poles, upon their noſes, and knock them down half dead; but for all that they will recover themſelves and riſe again. Some of them will ſtand on their defence, bite at, and run after us. Sometimes they run from the ice to the water, and leave a yellow dung behind them, which they ſquirt out at their hunters. Their fat is about three or four fingers thick, and covers the fleſh juſt under the ſkin. They have great livers, lungs, and hearts. When they couple they are ſo fierce, that we are obliged to kill them from our boats, no man daring to go near them. One of them near eight feet long was not killed, though we had cut off moſt of his fat, and notwithſtanding all our blows would ſtill bite and ſnap at us. I ran another ſeveral times through the body with my ſword, which he did not in the leaſt regard; he at laſt got up, and ran ſwifter than I could, and flung himſelf off from the ice into the ſea, and went down to the bottom.'

From the ſame author we have alſo the following account of the ſea horſe. 'It is imagined that theſe animals, ſays he, feed both on herbs and fiſh; that they eat herbs we conclude from the reſemblance between their dung and that of the horſes', and we ſuppoſe they eat fiſh from this circumſtance, when we threw the ſkin and fat of a whale into the ſea, one of theſe creatures came and drew it under water with him. They are remarkable for their courage and ſtrength; and the reſolution with which they defend each other is ſurpriſing; for when any were wounded by my people, they made to the long boat, and with their great teeth cut holes in it under water, whilſt others moſt undauntedly erected half their body out of the water and endeavoured to get into the boat. In one of theſe engagements a ſea horſe took hold of our harpooneer with his long tooth by the waiſtband of his breeches, and had not the waiſtband broke, would certainly have pulled him over-board. At *Muff*'s iſland we killed ſeveral hundred of them, and made a very good voyage. When they are killed the ſailors only bring off the head, as nothing but the two great teeth are of any value; theſe alſo were formerly in greater eſtimation than they are at preſent.'

are catched about the cape of *Kronotzkoy*, as between this and 136
the cape *Shupinſkoy* the ſea is generally calm, and affords them
properer places to retire to. Almoſt all the females that are
caught in the ſpring are pregnant; and ſuch as are near their
time of bringing forth their young are immediately opened, and 825
the young taken out, and ſkinned. None of them are to be
ſeen from the beginning of *June* to the end of *Auguſt*, when
they return from the ſouth with their young. The natives
were formerly at a loſs to conceive where ſuch great herds of
pregnant fat animals retired in the ſpring, and why they returned
ſo weak and lean in the ſummer: they conjectured, that as they
thus regularly ſwam from the ſouth in the ſpring, and returned
in the ſummer, their being ſo lean was owing to their fatigue.

The females bring forth their young there, and being at reſt 136
recover their former ſtrength; they nurſe their young ones three
months, 'till they are able to return with them to their
former habitations in the ſummer. The females ſuckle their
young with two teats, which are placed between their hinder
paws; they have ſeldom more than one; and when they bring
forth they gnaw off the navel ſtring like a dog, and greedily eat
the after-birth. The young ſee when they are whelped, their
eyes being as large as the eyes of an ox; and have thirty-two
teeth, not reckoning their tuſks, two of which are on each
ſide, and begin to appear the fourth day after their birth.
Their colour at the firſt is a dark blue; but in four or
five days grey hairs begin to appear between their hinder
legs, and at the end of one month their belly is black and
grey. The male is born larger and blacker, and even continues
blacker than the female, which turns almoſt of a blue
colour as ſhe grows up, having only grey ſpots between her fore
legs. The male and female differ ſo much in the form and
ſtrength of their bodies, that one who does not carefully examine
them would take them for different ſpecies of animals

mals; beſides the females are mild and fearful. The male has from eight to fifteen, and even ſometimes fifty females, whom he guards with ſuch jealouſy that he does not allow any other to come near his miſtreſſes: and though many thouſands of them lie upon the ſame ſhore, yet every family keeps apart; that is, the male, with his wives, young ones, and thoſe of a year old, which have not yet attached themſelves to any male; ſo that ſometimes the family conſiſts of 120. They likewiſe ſwim at ſea in ſuch droves. Such as are old, or have no miſtreſſes, live apart; and the firſt that our people found upon *Bering*'s iſland were ſuch old ones, and all males, extremely fat and ſtinking. Theſe ſometimes lie aſleep a whole month without nouriſhment, and are the fierceſt of all, attacking all that paſs them; and their pride or obſtinacy is ſuch that they will rather die than quit their place. When they ſee a man coming near them, ſome of them ruſh upon him, and others lie ready to ſuſtain the battle. They bite the ſtones that are thrown at them, and ruſh the more violently upon him who throws them; ſo that though you ſtrike out their teeth with ſtones, or put out their eyes, yet even blind they will not quit their place: nay, they dare not leave it, for every ſtep that any one moves off he makes a new enemy, ſo that though he could ſave himſelf from the attacks of men, his own brethren would deſtroy him; and if it happens that any one ſeems to retire the leaſt, then others draw near no prevent his running away; and if any one ſeems to ſuſpect the courage of another, or his deſign to run away, he falls upon him. This ſuſpicion of one another is ſometimes carried ſo far, that for a whole verſt one ſees nothing but theſe bloody duels; and at ſuch a time one may paſs them without any manner of danger. If two fall upon one, then ſome others come to ſupport the weakeſt; for they do not allow of unequal combat. During theſe battles the others that are ſwimming in the ſea raiſe their heads, and look at the ſucceſs of the combatants; at length becoming likewiſe fierce, they come out and increaſe the number.

Mr. *Steller* made this experiment:—With his Coſſacks he fell upon one of theſe ſea cats, and put out his eyes, and irritated four or five more by throwing ſtones at them. When theſe purſued him he ran towards the blind one, who hearing the running of his companions, and not knowing whom they purſued, attacked them. Mr. *Steller* retired to a high place, where he obſerved the battle for ſome hours. The blind one attacked without diſtinction all the reſt, even thoſe who took his part; ſo that at laſt they all fell upon him, and allowed him no reſt either upon the land or in the ſea, out of which they dragged him to the ſhore, and beat him until he died.

When two of them only fight, the battle laſts frequently for an hour: ſometimes they reſt awhile, lying by one another; then both riſe at once, and renew the engagement. They fight with their heads erect, and turn them aſide from one another's ſtroke. So long as their ſtrength is equal they fight with their fore paws; but when one of them becomes weak the other ſeizes him with his teeth, and throws him upon the ground. When the lookers on ſee this they come to the aſſiſtance of the vanquiſhed. The wounds they make with their teeth are as deep as thoſe made with a ſabre; and in the month of *July* you will hardly ſee one of them that has not ſome wound upon him. After the end of the battle they throw themſelves into the water to waſh their bodies. The occaſions of their quarrels are theſe:—The firſt and moſt bloody is about their females, when one endeavours to carry off the miſtreſs of another, or the young ones that are females; the females that are preſent follow the conqueror. The ſecond is about their places, when one comes too near that of another, which they don't allow, either for want of room, or becauſe they are jealous of their coming too near

136 their miſtreſſes. The third is owing to their endeavouring to do juſtice, and end the quarrels of others.

The male is very fond of the young ones; on the other hand, the females and young fear him extremely, and he treats them moſt tyrannically. If you endeavour to catch a young one, the male ſtands upon the defence, and the female is allowed to ſave herſelf and the young one by flight; but if ſhe drops the young one out of her mouth, the male leaves his enemy, and ſeizing upon her with his teeth beats her againſt the ſtones 'till ſhe leaves her for dead. As ſoon as ſhe recovers, ſhe crawls to his feet, which ſhe licks and waſhes with her tears that flow in abundance. In the mean time, the male ſtalks backwards and forwards, gnaſhing his teeth, and toſſing his head like a bear; at laſt, when he ſees they have carried off the young one, he likewiſe begins to weep; for they ſhed tears, when they are much wounded or injured, and are not able to revenge the injury.

Another reaſon of the ſea cats going in the ſpring eaſtwards to the Deſert Iſlands muſt be, that reſting and ſleeping without nouriſhment for three months, they free themſelves from the fat which was troubleſome to them, in the ſame manner as the bears who live the whole winter without nouriſhment; for in the months of *June*, *July*, and *Auguſt*, the old ones do nothing but ſleep upon the ſhore, lying in one place like a ſtone, now and then looking at one another, and yawning and ſtretching, without meat or drink; but the young ones begin to walk in the beginning of *July*. When this animal lies upon the ſhore and diverts himſelf, his lowing is like that of a cow; when he fights, he growls like a bear; when he has conquered his enemy, he chirps like a cricket; but being vanquiſhed or wounded, he groans or mews like a cat; coming out of the water, he commonly ſhakes himſelf, ſtrokes his breaſt with his hinder paws, and ſmooths the hair upon it. The male lays his ſnout to that of the females, as if he was kiſſing her. When they ſleep in the ſun, they hold up their paws, wagging them as the dogs do their tails. They lie ſometimes upon their backs, at other times like a dog upon their bellies; ſometimes contracting, at other times extending themſelves. Their ſleep is never ſo ſound but that they awake at the approach of any perſon, how ſoftly ſoever he goes, and are preſently upon their guard; beſides their ſmell and hearing are ſurpriſingly acute.

They ſwim ſo faſt that they can eaſily make ten verſts in an hour; and when they happen to be wounded at ſea they ſeize the boats of the fiſhers with their teeth, and drag them along with ſuch ſwiftneſs that they appear to fly and not to ſwim upon the water. By this means the boat is frequently overturned and the people drowned, unleſs he who ſteers it be very ſkilful, and obſerves the courſe of the animal. As they have a *foramen ovale*, they can keep long under water; but when they grow weak they come to the top to receive freſh air. They often ſwim upon their back, and ſo near the ſurface of the water that their hinder paws are frequently dry. When they go from the ſhore into the water, or when they dive after having taken breath, they turn themſelves like a wheel, as many other large ſea animals do. They faſten their fore paws in the rocks, and thus draw up their body, which they can move but ſlowly in ſuch places, but upon a plain, one is in danger of being overtaken by them. Upon *Bering*'s iſland there are ſuch numbers of them that they cover the whole ſhore; ſo that travellers are frequently obliged for ſafety to leave the ſands and level country, and go over the hills and rocky places. It is remarkable that in this iſland the ſea cats are found only upon the ſouth coaſt which looks towards *Kamtſchatka*. The reaſon of this may be, that this is the firſt land they meet with going eaſt from the *Kronotzkoy* Noſs.

000 The manner of catching them in *Bering's* iſland was this: They firſt ſtruck out their eyes with ſtones, and then killed them by beating out their brains with clubs: but this was a work of ſo much labour, that three men were hardly able to kill one with 300 ſtrokes; and though ſometimes the ſkull was broken in pieces, and the brains came out, and all their teeth beaten out, yet they would keep their place, ſtanding upon their hinder paws, endeavouring to defend themſelves. One of them thus miſerably treated was left to ſee how long it would live, which it did full two weeks without quitting its place. 225 They[1] ſeldom come aſhore about *Kamtſchatka*; ſo that the inhabitants chace them in boats, and throw darts or harpoons at them, which ſtick in their body; to this harpoon is fixed one end of a rope, and the other is in the veſſel; and by this rope they draw them towards the boat; but here they are to be particularly cautious whenever they chace one, if he comes near, not to ſuffer him to faſten upon the ſide of the boat with his fore paws, and overturn it; to prevent which ſome of the fiſhermen ſtand ready with axes to cut off his paws. Several of theſe animals die of 136 old age, but the greateſt part of the wounds they receive in the quarrels that happen among them; of which there are ſometimes ſo many, that the ſhore is covered with bones.

The ſea beavers * have not the leaſt reſemblance of the other beavers; but the people formerly gave them that name from their downy hair, which reſembles that of the beaver. They are as large as the ſea cats; their ſhape reſembles the ſeal, and their head the bear; their fore feet are longer than their hind feet; their teeth ſmall; their tail ſhort and flat, and ſharp towards the point; their hair is thick and black as pitch,

1. [the sea cats]

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* Lutra marina.

but in the old ones it turns grey. The young ones have 136
their hair long, browniſh, and very ſoft. This is the moſt
peaceable of all the ſea animals; it never makes any reſiſtance,
but endeavours to ſave itſelf by flight. The females are very
affectionate to their young, and carry ſuch as cannot ſwim
upon their belly between their fore feet; for until the little ones
can ſwim themſelves the mother ſwims upon her back. When the
fiſhermen purſue them, they never quit their young' till the very
laſt extremity; and if they ſhould happen to ſlip them they preſently
return to where they hear them cry; ſo that the fiſhers
endeavour to kill or catch the young, as the moſt effectual method of
taking their dams. They have three different ways of catching 225
them: 1ſt. By nets placed among the ſea cabbage[*], whither
the beavers retire in the night time, or in ſtorms. 2dly, They
chace them in their boats, when the weather is calm, and kill
them in the ſame manner they do ſea lions or ſea cats. The
third method is upon the ice, which in the ſpring is driven on
the coaſt by the eaſt wind; and this laſt is ſo general, that when
the ice is driven ſo ſtrongly upon the ſhore that the people can
paſs upon it with ſnow ſhoes, they conſider it as an acquiſition of
great treaſure, and all the inhabitants upon the coaſt hunt and
kill vaſt numbers, as they ſtalk along the ice ſeeking an
opening to get into the water. However, ſuch a drift of ice
upon the coaſt does not happen every year, but when it does,
they call it a good year; for the natives, Coſſacks, and merchants,
find a great advantage from this trade. The *Kuriles* did not 237
eſteem the ſkins of beavers more than thoſe of ſeals or ſea lions 291
before they ſaw the value that the *Ruſſians* put upon them; and
even now they will willingly exchange a dreſs made of beavers'

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[*] Fucus marinus.

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for a good one made of dogs' ſkins, which they think are warmer, and a better defence againſt the water.

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Beſides thoſe already deſcribed, there are ſeveral other ſea animals here, the moſt remarkable of which is the manati, or ſea cow. This animal never comes out upon the ſhore, but always lives in the water; its ſkin is black and thick, like the bark of an old oak, and ſo hard that one can ſcarcely cut it with an ax; its head in proportion to its body is ſmall, and falls off from the neck to the ſnout, which is ſo much bent that the mouth ſeems to lie below; towards the end the ſnout is white and rough, with white whiſkers about nine inches long; it has no teeth, but only two flat white bones, one above, the other below; its noſtrils are near the end of its ſnout, in length and breadth about an inch and a half; they are double, and within are rough and hairy; its eyes are black, placed almoſt in the middle, and near in one line with the noſtrils, they are no larger than ſheep's eyes, which is certainly remarkable in ſuch a monſtrous creature; it has no eyebrows nor eyelaſhes; and its ears are only a ſmall opening; its neck is not eaſily diſcovered, the head and body being ſo nearly joined; however, there are ſome vertebræ proper for turning the head upon, which it actually does; particularly when it feeds, hanging its head like a cow; its body is round like that of a ſeal, being thickeſt about the navel, and growing ſmaller towards the head and tail; the tail is thick, and bent a little towards the end; it ſomething reſembles the beard of the whale, and ſomewhat the fins of a fiſh; its paws, which are under its neck, are about 21 inches long, with them he both ſwims and goes, and by them he takes hold of the rocks, to which he ſometimes faſtens himſelf ſo ſtrongly, that when he is dragged from thence with hooks he will leave the ſkin of his paws behind: it is obſerved that theſe paws are ſometimes

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ſometimes divided in two, like the hoof of a cow; but this does not ſeem to be common, only accidental. The females have two teats upon their breaſts. The length of the manati is about 28 feet, and its weight about 200 pood. Theſe animals go in droves in calm weather near the mouths of rivers; and though the dams oblige their young always to ſwim before them, yet the reſt of the herd cover them upon all ſides, ſo that they are conſtantly in the middle of the drove. In the time of flood they come ſo near the ſhore, that one may ſtrike them with a club or ſpear; nay, the author relates that he has even ſtroked their backs himſelf with his hand. When they are hurt they ſwim off to ſea, but preſently return. They live in families, one near another; and a family conſiſts of a male, female, ſome half grown, and one ſmall calf: hence it appears that every male has one female. They bring forth their young in the harveſt, and never more than one at a time.

They appear to be extremely gluttonous, eating ſo continually without any regard to their own ſafety, that they hardly ever lift their heads above the water; ſo that any one may go among them in boats, and chuſe which he pleaſes to carry off. The half of their body, that is their back and ſides, is always above water, upon which flocks of crows ſettle, and pick the lice out of their ſkins. They do not feed upon every herb, but, firſt, upon ſea cabbage [*], which has a leaf reſembling ſavoys; ſecondly, upon cabbage [†] reſembling a club; thirdly, upon cabbage [‖] reſembling thongs; and, fourthly, upon a waved kind of cabbage [‡]: and wherever they have been, though but for one day, heaps of roots and ſtalks are thrown out upon the ſhore.

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[*] Fucus Coiſpus braſſicæ ſabaudicæ folio cancellatus.

[†] Fucus clavæ facie.

[‖] Fucus ſcuticæ antiquæ Romanæ facie.

[‡] Fucus longiſſimus ad nervum undulatus.

136 When they have eaten their fill, they lie aſleep upon their backs.
As ſoon as the ebb begins they retire to the ſea, fearing to be left
upon the ſhore. In the winter time they are frequently cruſhed
by the ice againſt the rocks, and thrown out upon the beach.
This happens during a ſtorm, when the wind is upon the
ſhore. At this ſeaſon they are ſo lean that one may count all
225 their ribs and vertebræ. They are caught with great iron hooks,
136 ſomething like the fluke of a ſmall anchor. This hook is carried
by a ſtrong man in a boat with three or four rowers, who
when he comes among the herd ſtrikes into one of them.
Thirty men that are left upon the ſhore, and hold one
end of a rope which is faſtened to the hook, draw the
manati towards the land; and in the mean time thoſe
that are in the boat ſtab and cut it 'till it dies. I once
ſaw ſome of the fiſhers cut off the fleſh from the creature,
while it was alive, who all the while ſtruck the water with its
paws with ſuch force that the ſkin was torn off them; but at
laſt it expired. It is eaſier to catch the old ones than the
young: for the laſt are more active, and the ſkin being ſofter
the hook frequently looſes its hold. When one of them is
ſtruck, and ſtruggles to clear himſelf of the hook, thoſe of the
herd that are neareſt to him come to his aſſiſtance: ſome
overturn the boat by getting under it; others lay themſelves
upon the rope, as if they could break it; and others endeavour
to ſtrike out the hook with their tails, which ſometimes
136 ſucceeds. The love that is between the male and female is
extraordinary; for after the male has uſed all methods to aſſiſt
and reſcue the female, he follows her even dead to the very
ſhore, and has been obſerved ſometimes even after two or
three days to remain by the dead body. This animal cannot
be ſaid to low, but rather brays hard, which is particularly obſervable
when it is wounded. It cannot be ſaid how ſharp

their ſight or hearing is; but both ſenſes appear to be very weak, perhaps from their keeping their heads always under water.

There is ſuch a plenty of manati in *Bering*'s iſland, that it is ſufficient to maintain all the people of *Kamtſchatka*. Their fleſh, though it takes a long time to boil, taſtes well, and is ſomething like beef. The fat of the young reſembles pork, and the lean is like veal. This fleſh is eaſily boiled, and ſwells ſo much that it takes up double the ſpace when boiled that it did raw. It is impoſſible to boil the fat about the head and tail; but the ribs and back are very delicate. Some pretend that the fleſh of this animal will not keep in ſalt; but we found the contrary, it appearing to us little inferior to ſalted beef[*].

Beſides

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[*] That the *Kamtſchatka* manati is the ſame kind of animal with that found by Captain *Dampier* in the rivers of *South America* and at the *Philippine Iſlands*, is evident from that author's deſcription of it:

‘ This creature is about the bigneſs of a horſe, and 10 or 12 feet long. The mouth of it is much like the mouth of a cow, having great thick lips. The eyes are no bigger than a ſmall pea, the ears are only two ſmall holes on each ſide of the head. The neck is ſhort and thick, bigger than the head. The biggeſt part of this creature is at the ſhoulders, where it hath two large fins, one on each ſide of its belly. Under each of theſe fins the female hath a ſmall dug to ſuckle her young. From the ſhoulders towards the tail it retains its bigneſs for about a foot, then it groweth ſmaller and ſmaller to the very tail, which is flat, and about 14 inches broad, and 20 inches long, and in the middle four or five inches thick, but about the edges of it not above two inches thick. From the head to the tail it is round and ſmooth, without any fin but thoſe two before mentioned. I have heard that ſome have weighed above 1200lb. but I never ſaw any ſo large. The manati delights to live in a brackiſh water; and they are commonly in creeks or rivers near the ſea. 'Tis for this reaſon, poſſibly, they are not ſeen in the South Seas, (that ever I could obſerve) where the coaſt is generally a bold ſhore, that is, high land deep water cloſe home by it, with a high ſea or great ſurges; except in the bay of *Panama*, yet even there is no manati: whereas the *Weſt Indies*, being as it were one great bay compoſed of many ſmaller, are moſtly low land and ſhoal water, and afford proper paſture (as I

‘ may

Beſides the above-mentioned animals, Mr. *Steller* ſaw upon the coaſt of *America* a new and uncommon ſea beaſt, which he thus deſcribes: Its length is about five feet; its head like a dog's; its ears ſharp, and ſtanding up; and its eyes large; upon its upper and under lips it has hairs like a beard; its make is thick and round; thicker towards the head, thin and ſmall towards the tail; the whole body is covered with thick hair, grey upon the back, and red or ſorrel towards the belly; the tail fin divides itſelf into two, the uppermoſt of which is longeſt. The author was extremely ſurpriſed that he could not diſcover any feet or paws, as in other ſea animals. Its appearance in general was ſomething like the draught of that creature, which *Geſner* gives under the name of ſea monkey; and the author thinks that the name of monkey is not improperly applied to this animal for its remarkable activity and many tricks. It ſometimes ſwam after their veſſel for two hours, looking firſt at

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'may ſay) for the manati. Sometimes we find them in ſalt water, ſometimes in freſh, but never far at ſea; and thoſe that live in the ſea at ſuch places where there is no river nor creek fit for them to enter, yet do commonly come once or twice in 24 hours to the mouth of any freſh-water river that is near their place of abode. They live on graſs ſeven or eight inches long, and of a narrow blade, which grows in the ſea in many places, eſpecially among iſlands near the main. This graſs groweth likewiſe in creeks, or in great rivers, near the ſides of them, in ſuch places where there is but little tide or current. They never come aſhore, nor into ſhallower water than where they can ſwim. Their fleſh is white, both the fat and the lean, and extraordinary ſweet and wholeſome meat. The tail of a young cow is much eſteemed; but if old, both head and tail are very tough. A calf that ſucks is the moſt delicate meat: privateers commonly roaſt them; as they do alſo great pieces out of the bellies of the old ones.

'The ſkin of the manati is of great uſe to privateers; for they cut them into ſtraps, which they make faſt on the ſide of their canoes, through which they put their oars in rowing inſtead of tholes or pegs. The ſkin of the bull, or of the back of the cow, is too thick for this uſe; but of it they make horſewhips, cutting them two or three feet long: at the handle they leave the full ſubſtance of the ſkin, and from thence cut it away tapering, but very even, and ſquare all the four ſides. While the thongs are green they twiſt them, and hang them to dry, which in a week's time become as hard as wood.'

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one thing and then at another with an appearance of ſurprize; and would come ſo near the ſhip, that he might be touched with a pole; but would retire to a greater diſtance on obſerving any on board to ſtir. He frequently raiſed one third of his body above the water, ſtanding erect like a man, ſometimes for half an hour together; and then darting under the veſſel, appeared in the ſame poſture on the other ſide; and this he would repeat, perhaps thirty times together. At other times he would bring a great *American* ſea herb, which is flat and hollow below like the bottom of a bottle, and ſomething ſharp above: this he would toſs about and catch again with his mouth, playing a thouſand apiſh tricks with it. It has been obſerved of all ſea beaſts, that the more they play in fair weather the greater ſtorm is to be expected.

CHAP. IX.

Of FISHES.

THERE are great numbers of whales both in this ocean and in the *Penſchinſka* ſea; they frequently ſwim within muſket-ſhot of the ſhore, and ſometimes will come cloſe to the very ſhore, perhaps to rub off the ſhell-fiſh that adhere to their bodies and give them no reſt; as plainly appears from their lying a long time with their backs above water, to allow the rooks and gulls to pick them off. At ſuch time as the fiſh come out of the ſea into the freſh waters, two or three whales are often found together at the time of flood near the mouth of the rivers.

136 The whales here are from ſeven to fifteen fathoms long. We can give no account of the different ſpecies of whales at *Kamtſchatka*, few of them being caught here except in the northern parts by the *Koreki* and *Tchukotſkoi*, who feed upon their fleſh. In the year 1740 a whale was brought by the flood into the mouth of the *Bolſkoi* river; but ſome Coſſacks obſerving it, went out in boats, and cut it all to pieces; ſo that next day when I came, to my great diſappointment, I neither found fleſh nor bones; for theſe people, who had cut off the fleſh, being afraid of puniſhment for doing it without permiſſion, had buried the bones to conceal their crime. *Steller* obſerved that more whales were thrown on the eaſtern than on the weſtern ſhore, and more in the harveſt than in the ſpring.

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171 The different people have different ways of catching them: the *Kuriles* by throwing their poiſoned darts into them: the *Olutores* catch them in nets, made of thongs of the ſea horſe ſkin as broad as a man's hand, which they dry in the ſmoke. Theſe they ſet in the mouths of the rivers, and the whale purſuing other fiſh entangles himſelf in them. With theſe thongs he is dragged to the ſhore by the help of numbers who aſſemble on theſe occaſions, and always perform certain ceremonies. They bring out of their common huts a wooden whale about two feet long; then building a new hut they place this image in it, uſing ſeveral conjurations. After this they light a lamp, and appointing ſome people to look after it, give orders that it be not allowed to go out from ſpring to harveſt, which is as long as the fiſhing ſeaſon laſts. They then cut the whale into different portions, which, looking upon it as their moſt delicate proviſion, they prepare in the following manner:—They dry the lean in the ſun; and the ſkin, which they ſeparate from the fat, they beat with hammers, and of it make ſoles to their ſhoes, which wears extremely well. They ſmoke the fat parts, and

and cleaning the guts, they fill them with the oil which runs in cutting the fiſh, or which they melt from the blubber, having no other veſſels to keep it in. 171 225

The *Tchukotſkoi* kill whales with a harpoon in the ſame manner as the *Europeans* do, and they catch ſo many that they never eat thoſe whales that are thrown dead on ſhore, as ſome of the neighbouring people do, but only extract their fat for burning. Although the *Tchukotſkoi* have large herds of deer, which might be ſufficient for their ſuſtenance, yet they are the greateſt whale fiſhers of any people in this part of the globe, and look upon the fat of the whales as the greateſt delicacy; beſides, having great ſcarcity of wood, they uſe it for burning. They make themſelves ſhirts of the inteſtines of the whales, like the *Americans*; and uſe them for veſſels, like the *Olutores*.

The kaſatki, (falſely called the ſword-fiſh) which are numerous in theſe ſeas, are very uſeful to the inhabitants, for theſe fiſh frequently either kill or drive the whales on ſhore. *Steller* had an opportunity of ſeeing an engagement between the kaſatki and whale, both at ſea and upon *Bering*'s iſland. When the kaſatki attacks the whale he makes him roar ſo that he may be heard ſome miles. If the whale makes off, the kaſatki follows him at ſome diſtance 'till great numbers of them gather together, and make a general attack. It is never obſerved that ſuch whales as are thrown on ſhore have any part eaten out of their bodies; ſo that this war between the whales and the kaſatki muſt proceed only from a natural enmity. The fiſhers are ſo much afraid of theſe animals that they not only never throw any darts at them, but if poſſible avoid going near them; nay, they even make offerings to them, begging that they will not hurt them: for if irritated they ſometimes overturn their boats. 136 825

225 Mr. *Steller* writes that he was certainly informed, that in the bodies of whales thrown upon the coaſt of *Kamtſchatka*, there have been found harpoons marked with *Latin* letters; but by what means he could be certain of this, I know not; for the natives have no idea of letters; and before our arrival, none of our Coſſacks ever ſaw a *Latin* letter.

237 262 Many are the advantages which the *Kamtſchadales* derive from this plenty of whales: of the ſkin they make ſhoe ſoles and ſtraps; they eat the fleſh, as likewiſe the fat which they alſo burn; they ſew their boats with the beard, of which alſo they make nets for foxes and fiſh; out of the lower jaw they form a ſort of ſledge, and make knife-handles, rings, and ſeveral ſmall things of it beſides; the inteſtines ſerve for barrels, and other veſſels; out of the nerves and blood-veſſels they make ropes; and of the vertebræ, ſeats. The moſt delicate pieces of the whale are the tongue and fins. I thought that the whale's fat with grout was not unpleaſant, but I can't ſay, that I was then a proper judge, for hunger makes every thing agreeable.

226 736 825 They never go a fiſhing for the kaſatki, but if this fiſh is thrown on ſhore they uſe its fat like that of the whale. Mr. *Steller* ſays, that, in the year 1742, eight of them were thrown on ſhore at once, near the *Lopatka*; but the diſtance and the bad weather prevented his going to examine them. He was told, that the largeſt never exceed four fathoms in length; that they have ſmall eyes, a wide mouth, and great ſharp teeth, with which they wound the whale; but that they tear up the belly of the whale with a ſharp fin which is upon their backs, is a falſe report; for though this fin is about five feet long, very ſharp, and in the ſea ſtands quite upright, yet it is altogether ſoft, and conſiſts only of fat: nay the animal itſelf is almoſt all fat having hardly any muſcular fleſh.

There is likewiſe another creature in theſe ſeas reſembling a whale, but ſmaller and ſlenderer: the *Ruſſians* call it a wolf, and the *Kamtſchadales*, chethak. Its fat is of ſuch a nature, that, when ſwallowed, it preſently paſſes inſenſibly. The natives ſometimes uſe it as a medicine in caſe of coſtiveneſs, but oftener to play tricks with one another. They feed upon the fleſh and tongue, which have not the ſame quality. 136 278 262 522

Notwithſtanding the great plenty of whales upon this coaſt, the ſcarcity of food is ſometimes ſo great, that whole villages die of hunger. In the month of *April*, 1739, I ſaw a melancholy inſtance of their being obliged, out of neceſſity, to eat ſome poiſonous whale's fat, at a village upon the river *Beroſover*, called *Alaune*, where I obſerved the people all look pale, as if they had been ſick for a long time; when I aſked the reaſon, I was told, that juſt before my arrival one of the natives was killed by eating of whale's fat; and as all the reſt had eat of the ſame, they dreaded the ſame fate. In about half an hour, a young healthy man began to groan and complain that his throat burnt; upon which the old women, who are the phyſicians there, faſtened him with ropes to a ladder, and placed themſelves on both ſides of him with great clubs in their hands, with which they toſſed firebrands out of the huts, and the wife of the ſick perſon coming behind him, made ſeveral conjurations over his head, begging death to ſpare him: however he died the next day; but the other inhabitants, as I heard, recovered with difficulty after a long time. This accident did not greatly ſurpriſe me; I rather wondered that ſuch things did not happen oftener, eſpecially from thoſe whales which are killed with poiſoned darts. However the *Kamtſchadales* think ſo little of the conſequences, that they had rather riſk their lives than be deprived of the pleaſure of eating whale's fat. 262 755 278

After the whales, we muſt mention the fiſh * mokoe, which at *Archangel* is called akula. It is about three fathoms long; 136

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* Canis Carcharius Autoris.

brings

136 brings forth its young alive, like the whale; and when its
mouth is ſhut has ſome reſemblance of a ſturgeon, but its
teeth are very different, being large and terrible. The *Kamtſ-*
262 *chadales* eat the fleſh of this fiſh,[1] and though it appears to
825 be tough and ſtrong, they ſay it is exceedingly well taſted. The
guts, and particularly the bladder, are in high eſteem; ſo that
when they catch this fiſh, they never call it by its name, for fear,
as they imagine, they ſhould provoke it to burſt its bladder, and
render it uſeleſs to them. The teeth are ſold under the name
of ſerpents' teeth.

136 Several fiſhes which are common to other ſeas are found here;
262 as pike, eels, lampreys, cod, and very fine ſoals in great plenty;
231 but the inhabitants make no account of theſe fiſh, and never uſe
them unleſs in great neceſſity, or to feed their dogs. Mr. *Steller*
obſerved four different ſpecies of flat fiſh.

There is a fiſh called * vahnae, which is a ſpecies of the cod; is round and thick, with three fins upon its back; and when taken out of the water is of a copper-colour, but preſently changes to yellow: its fleſh is white, but ſoft, and of a diſagreeable taſte; however the inhabitants eat more of it, than of other fiſh which are much better taſted; the reaſon indeed is, that they catch this fiſh in the beginning of the ſpring, when they can catch no other; a great deal of which they dry in the ſun uncleaned, deſigning it as proviſion for their dogs.

136 I ſaw the fiſh which they call † terpuk, but it being dry, I could not obſerve thoſe fine colours which Mr. *Steller* deſcribes. By his deſcription its back is blackiſh, its ſides are reddiſh, and chequered with fine ſilver-coloured ſpots; ſome of which are ſquare, and others circular: in its ſhape it reſembles the perch.

[1] [mokoe or Canis Carcharius Autorum]

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* Onos vel Aſinus Antiquorum.

† Doecogrammos Stelleri.

They angle for this fiſh near the *Kurilſki* iſlands, and the haven of *Awatſcha*, with hooks made of bone or wood. 136

There are likewiſe ſeveral other kinds of fiſhes in theſe ſeas which are not very common in other places; but as they make no part of their nouriſhment, and are ſeldom caught, I ſhall take no notice of them, my deſign being only to mention ſuch as ſerve for food to the inhabitants, in this country which produces no grain. The chief of theſe are ſalmon of different kinds, which during the ſummer come in ſhoals from the ſea up the rivers. Of theſe they make what they call *eukol*, which they uſe inſtead of bread; and they boil up the fat, which ſerves for butter. They likewiſe make glue of them. 136 262 237

Before I give a particular deſcription of each ſpecies apart, I would communicate ſome obſervations which regard the catching of theſe fiſh, and which indeed are wonderful proofs of the Divine Providence and the goodneſs of the Creator, who has bleſt a place with ſuch abundance of fiſh where there is neither cattle nor grain. 136

In *Kamtſchatka* the fiſh come from the ſea in ſuch numbers, that they ſtop the courſe of the rivers, and cauſe them to overflow the banks; and when the waters fall there remains a ſurpriſing quantity of dead fiſh upon the ſhore, which produces an intolerable ſtink. At this time the bears and dogs catch more fiſh with their paws than people do at other places with their nets. All the fiſh that ſwim up the rivers are of the ſalmon kind, and are commonly called red fiſh; but the ſeveral ſorts are ſo diſtinct from each other, that *Kamtſchatka* alone is thought to produce as many different ſpecies as are to be found in all the world beſides. Not one fiſh remains in *Kamtſchatka* longer than ſix months (except gudgeons); for all that are not caught before the end of *December* die, except in ſome few deep places where there are warm ſprings. It is obſerved of all the different ſpecies of ſalmon in *Kamtſchatka*, that they are brought forth and die in the ſame river, come to their full growth in the ſea, and ſpawn only once during their whole lives: for which purpoſe they ſwim up the rivers, and having found a proper place in ſmooth water, they make a hole with the fins that are under their gills, and there depoſit their roes.

In *Siberia* the red fiſh live in clayey rivers; they remain there ſeveral years, and generate every year, having numbers of inſects proper for nouriſhment. They winter in deep pools, and in the ſpring ſwim further up for the ſake of propagating in the mouths of little rivulets that fall into the great rivers, where they are commonly caught. The young fry ſwim down to the ſea, where they continue 'till they come to their full growth, which Mr. *Steller* thinks is in the third year; and then they return in order to propagate. It is remarkable that thoſe fiſh which are bred in a great river continue in the ſea near to its mouth, feed upon things brought down by the ſtream, and when the time of ſpawning approaches they will enter no river but that which produced them. It is alſo very extraordinary, that thoſe fiſh which come up the rivers in the month of *Auguſt*, though they have time enough to ſpawn, yet as there remains but little time for their young to return, take a year-old fiſh of their own kind, which continually follows the male and female; and when the old have covered the roes they continue to aſcend, the young one, which is no bigger than a herring, guarding them 'till the month of *November*, at which time it returns with the other fiſhes. It is very probable that the ſame thing happens in *Europe*, which may have given occaſion, through the difference of their ages, to account them of different ſpecies.

Each kind of fiſh always aſcends the rivers at the ſame time. In the month of *Auguſt* ſometimes two, three, nay even four ſpecies come up at once; but each keeps ſeparate from the other.

The different ſpecies of thoſe fiſhes which are here called red fiſh /136 ſhall be mentioned in giving an account of the time when they 825 come out of the ſea into the rivers; it being remarked that they always obſerve the ſame order, the ſame ſpecies which comes 805 out firſt one year continuing to do ſo the following. This the *Kamtſchadales* find to be ſo certain, that they call their months by the name of the fiſh which are then caught.

The largeſt and beſt of theſe fiſh, and which come firſt out of /136 the ſea, are called chavitſi. It reſembles the common ſalmon, though it is a great deal broader; is about three feet and a half long, and weighs a pood and a half; its breadth is about the fourth part of its length; its noſe is ſharp, the upper jaw being longer than the lower; its tail is equal; the back is bluiſh, with ſome ſmall black ſpots; its ſides are of a ſilver colour, and its belly white; its gills are long and ſmall; and its fleſh is red both raw and boiled.

They ſwim up the rivers with ſuch force that the water ſeems /136 to riſe like a wall before them; which the *Kamtſchadales* obſerving 226 get into their boats, and throw out their nets. This fiſh does 262 not come up in ſuch large ſhoals as the others, nor is ſuch plenty caught as to make *eukol* of it, except upon the river *Kamtſchatka*; and even there it is ſo rare that it is only uſed on feaſts or holydays, and after all it is ſo fat that it preſently turns bitter. The Coſſacks, for the moſt part, ſalt it, particularly the belly, back, and head. The ribs are dry and hard, but the belly is truly a delicate food, at leaſt no fiſh there comes up to it; and what they dry in the ſun, if not better than the *Jakutſki* ſturgeon, is at leaſt not worſe.

Of all the rivers that run into the Eaſtern Ocean this fiſh /136 is only found in the river *Kamtſchatka* and the bay of *Awatſcha*; and of thoſe that fall into the *Penſchinſka* ſea, only in the *Bolſcheretſkoi* river: beſides, Mr. *Steller* ſays, that none is to be found further north than 54°, and it is certain that it is not

136 to be found near *Ochotſka*, where it is eſteemed a valuable preſent.

226 262 576 574 The nets with which this fiſh[1] is caught are made of yarn about the thickneſs of ſugar ropes; and the fiſhing begins about the middle of *May*, and laſts ſix weeks. The *Kamtſchadales* eſteem this fiſh ſo much, that the firſt they catch they bake and eat with great rejoicings. This cuſtom is very diſagreeable to the *Ruſſian* inhabitants who hire the natives to fiſh for them; for however impatient the maſter may be to taſte the new fiſh, the fiſhermen will have the firſt, looking upon it as a great ſin if they do not eat it themſelves, and with all due ceremonies.

136 The ſecond kind is only called red fiſh, in *Ochotſka*, narka. It is about 21 inches long, and flattiſh; its fleſh is extremely red; its head very ſmall; the ſnout ſhort and ſharp; the tongue bluiſh, with whitiſh ſides; its back bluiſh, with black ſpots; its belly white; and its tail forked. Its breadth is about a fifth part of its length; and it has ſcales large and round, eaſily ſeparating from the ſkin: it weighs about fifteen pounds. It is found in every river that runs either into the *Penſchinſka* or Eaſtern Sea, coming up in great ſhoals; and it is caught about 136 the middle of *June*. The *eukol* that is made of it, though very 226 pleaſant, preſently turns bitter; ſo that for the moſt part they either ſalt this fiſh, or boil it for its fat. There are two things worth notice concerning it: the firſt of which is, that part go before to the heads of the rivers, as if they were ſent out to examine them, where ſome of them are caught before the ſhoals appear at the mouths. The ſecond is, that this fiſh is more plenty in ſuch rivers as run out of lakes than others: nor does it live long in the former, but haſtens directly into the latter; in the depths of which it lies 'till the beginning of *Auguſt*, at which time it comes nearer the ſhore, and tries to get into theſe rivers that communicate with the lakes. Here the inhabitants catch them by nets, dams, or other methods.

[1] [chivatsi]

The third kind of this fiſh is called keta or kaeko; which is 136
ſomewhat larger than the narka. The fleſh is white; the head 262
flattiſh and longiſh; the ſnout is bent; the teeth, when it has
been ſome time in the river, are like a dog's; its tongue is ſharp;
its tail a little forked; its back black and green; its ſides and
belly like other fiſh; and its ſkin is without ſpots. The *eukol*
that is made of this fiſh they call their houſehold bread, being
much more plenty than any other; as the ſeaſon of the fiſhery,
which begins in *July* and ends about the middle of *October*, is
drier and more proper for preparing it. This fiſh is caught in
all the rivers both in the *Penſchinſka* and Eaſtern ſeas.

The gorbuſhe, or crook back, follows or ſometimes accompanies 136
the keta. This fiſh is more plentiful than any other whatever; 262
it is about eighteen inches long, and flattiſh; its fleſh is white; 231
its head ſmall; its ſnout ſharp, and conſiderably crooked; its teeth
ſmall; its back bluiſh, with round black ſpots; its ſides and belly
like the other ſorts; and the tail forked. Though this fiſh is
not bad, yet the inhabitants have ſuch plenty of what they eſteem
better, that they uſe this only for their dogs.

The laſt of theſe kinds that come on ſhore is called white fiſh. 136
This fiſh both in bulk and appearance is very like the keta; they 725
differ in this indeed, that the keta has no ſpots, and the white 226
fiſh has long black ſpots upon its back. It excels in taſte all the
fiſhes that have white fleſh; and it agrees with the narka in this,
that it moſt frequently haunts thoſe rivers that run out of the
lakes, and is caught there in the ſame manner. The young ones,
which accompany the old to take care of the roes and convoy the
young fry down, are eſteemed by the inhabitants to be a different
ſpecies, and are called milktchuch. So ſoon as the old ones have
ſpawned, they take all care to provide for their own ſafety, retiring 136
immediately to deep places where there are warm ſprings; 226
and they are chiefly found in the ſprings near the *Bolſcheretſkoi* river

and

136 and the *Opalſkoy* lake: they are caught likewiſe during the whole
226 winter in thoſe ſprings that run into the *Kamtſchatka* from the
ſouth; and near to where the old lower fort of *Kamtſchatka*
ſtood they alſo abound, which is a great relief to the inhabitants.
I myſelf was at this fiſhery in the end of *February*; however I
found the fiſh at that time dryer and not ſo well taſted as in the
harveſt. This fiſh eats very well, either ſalted, dryed, or
ſmoaked. It is caught frequently in the ſame net with the keta
227 and narka; and thoſe which they uſe for this fiſhery are made
of yarn about half as thick as that with which they make the
nets for the chavitſi, and the meſhes are about an inch and
a half wide.

136 All theſe different ſpecies of fiſh change their colours, turn lean and ugly, their ſnout bends, their teeth grow, and a ſcurf appears upon their ſkins. The chavitſi, narka, and white fiſh, change their ſilver colour to a red; the keta turns likewiſe red, ſtained with black ſtripes. Their fins and tails become reddiſh and blackiſh; in one word, they would never be taken for the ſame fiſh that enter the rivers, if theſe changes were not certain. The gorbuſhe alone preſerves its ſilver colour, and, whenever it loſes that, it dies.

It is incredible with what eagerneſs they go up the rivers, particularly the gorbuſhe. When they come to any place where the ſtream is ſtrong, and thoſe that are weak find it impoſſible by their own ſtrength to get up, they faſten their teeth upon the tail of ſome that are ſtronger, that they may be drawn up by them; ſo that ſeveral of theſe fiſh are found which have their tails bitten.

The true ſalmon may always be reckoned one of thoſe fiſh that come in ſhoals; and are found to go up the rivers *Kompakſve*, *Bircumkin*, and *Etchi*. I never ſaw theſe fiſh indeed, but have heard a great deal of them. Mr. *Steller* writes, that when they return to the ſea, it ſometimes happens that they are driven by a ſtorm from the mouth of their native river, ſo that loſing their way, the following year they aſcend a ſtrange river, which is the occaſion of their being found in more plenty in ſome rivers one year than another.

There are other kinds of red fiſh which come up the river without any order, and live there the whole winter before they return. Mr. *Steller* ſays, they ſtay ſometimes four or five years. The firſt of this ſpecies is called, at *Ochotſka*, malma, and at *Kamtſchatka*, goltſa. When they come out of the ſea their colour is clear like ſilver; the upper part of the ſnout is blunt, and ſomewhat bent; the lower ſharp, and bent towards the upper. When they are ripped up, and the roes taken out, there appear upon the ſides round red ſpots of different magnitudes, the belly and lower fins become likewiſe reddiſh, except the bones which continue white.

The largeſt fiſh of this ſpecies, which lives ſometimes five or ſix years, comes from the ſea into the river *Kamtſchatka*, out of which it goes into the rivers that run into it, and by them to the lakes, where it grows almoſt as big as the chavitſi, though it ſeldom weighs more than twenty pounds. They are found likewiſe very large in the *Biſtroy* river; there their length is commonly twenty-eight inches, and breadth ten; they are of a dark colour, have large teeth, and the lower jaw is crooked with a knob: it ſeems indeed of a different ſpecies. Theſe of three years old, which have been one year out of the ſea, have a long head, are of a ſilver colour, with ſmall ſcales, and ſmall red ſpots; and ſuch as have been two years out of the ſea are round and longiſh, with ſmall heads, and their fleſh, which is of a reddiſh white, is hard and well taſted. With regard to their ſize; the firſt year they are long and ſmall; the ſecond, they grow more in breadth than in length; the third, the head grows conſiderably; and the fourth, fifth, and ſixth years, their breadth and thickneſs increaſes

greatly

136 greatly: this obſervation probably holds in all kinds of ſalmon
226 trouts. In the fourth year alſo, the lower part to the ſnout be-
251 comes hooked. This ſpecies of fiſh[1] ſwims along with the gorbuſhe, and is caught with it in the ſame net, which is wove of ſmall yarn, the meſhes being about an inch wide. Such as live in the rivers are nouriſhed by the roes of other fiſh; and in the ſummer are found near the heads of ſmall rivers, which they leave in the ſpring. Such as are caught at the beginning of ſummer are ſalted, but thoſe caught later are frozen for the winter.

136 Another ſpecies of fiſh is called muikiſi, and is about the bigneſs of the narka; its ſcales are pretty large; its head is of a middling ſize; the upper part of its ſnout is like that of the goltſa, with the lower part hooked; it has teeth in its jaws and on the ſide of the tongue; its back is blackiſh, marked with round, or ſemicircular black ſpots; and upon each ſide has a large red ſtripe, which goes quite from the head to the tail: this diſtinguiſhes it from all the other ſpecies of this fiſh: it ſwallows all kinds of naſtineſs, and often catches the field mice that happen to ſwim upon the river; and is ſo particularly fond of the nortleberry, that if it ſees any growing upon the bank, it throws itſelf out, and ſeizes either the berry or the leaf of the plant. It is a well taſted fiſh, but is not caught in ſuch plenty as others are. They do not certainly know the time of its entering the rivers, but imagine it is before the ice is gone.

There is a third kind called kunſha, which is about three feet long; the head makes a ſeventh part of the length; the ſnout is ſhort and ſharp; its jaws are furniſhed with teeth; its back and ſides blackiſh, marked with yellow ſpots, ſome of which are round and others oblong; its belly is white; its lower fins and tail blue; and the fleſh white and well taſted. In *Ochotſka* it ſwims in ſhoals, but at *Kamtſchatka* it is more rare, and conſequently more eſteemed.

1.[Goltza]

The fourth ſpecies is the harius, which is well known in /136
Siberia and all *Ruſſia*; but thoſe that are here have the back
fin longer than the others. Mr. *Steller* writes, that they come
up into the rivers upon the firſt going off of the ice; but I never
happened to ſee this fiſh in *Kamtſchatka*.

There is another ſpecies of red fiſh which reſembles the golſta, with this difference, that its head is larger, and the upper part of the ſnout a little hooked; its ſides are marked with red ſpots, like the malma: it is ſeldom longer than 20 inches.

Among the ſmall fiſhes which the *Kamtſchadales* feed upon /136
are three ſpecies of ſmelts; one of which is called hagatch, the 231
ſecond innaka, and the third uiki. The hagatch is our common 262
ſmelt. The innaka differs from it a little, and is found in great
plenty about the lake *Nerpech*. Uiki is thrown ſometimes upon
the ſhore in vaſt heaps for 100 verſts together. They are
eaſily diſtinguiſhed from the other ſpecies by a rough ſtripe that
goes down the ſide. They commonly ſwim three together,
and are ſo joined by the afore-mentioned rough ſtripe, that when
you catch one the others cannot eaſily diſengage themſelves.
The *Kamtſchadales* dry this fiſh as food for their dogs; but in
caſe of ſcarcity they uſe it themſelves, although the taſte is very
diſagreeable

The laſt kind of fiſh which we ſhall mention is the herring: /136
theſe are found in great plenty in the Eaſtern Sea, but very ſel- 226
dom in the bays which lie upon the *Penſchinſka*. In my opinion
they don't differ in the leaſt from the herring which we have in
Europe; which Mr. *Steller* likewiſe confirms. In the harveſt
they are found in large lakes, where they breed and winter: in
the ſpring they ſwim towards the ſea. The greateſt fiſhery of
them is in the lake *Viliutchin*, which is only about fifty fathom
from the ſea, and has communication with it by a ſmall outlet.
When theſe herrings enter the lake, this paſſage is ſhut up by
the ſand being thrown into it, and remains ſo 'till the month of

136 226 *March*, when it is waſhed away again by the high water ariſing from the melting of the ſnow; which happens regularly every year. The herrings come every day to the mouth of the outlet, as if to inform themſelves whether the paſſage was yet open, and remain there from morning 'till evening, when they return to the deeper part of the lake. The *Kamtſchadales* obſerving this, break holes in the ice near the mouth of the outlet, where they put down their nets, and catch great quantities. This fiſhery continues ſo long as the ice remains upon the lake. They catch them likewiſe with nets in the ſummer, at the mouths of the rivers;
262 438 when they boil out the fat, which is as white as butter, and more delicate than that of any other fiſh; and ſend it from the lower *Kamtſchatkoy* fort (where the greateſt quantity is made) as a rare preſent, to the other forts.

CHAP. X.

Of the BIRDS.

136 223 433 KAMTSCHATKA abounds in birds, but the inhabitants make leſs uſe of them than of roots and fiſhes: the reaſon of this is, that they don't well know how to catch them; and their fiſhery is ſo advantageous to them, that to leave that and go a bird-catching would be as ridiculous as for the huſbandman to leave his plough and go a ſhooting.

136 I ſhall here divide the birds into three claſſes: the firſt, ſea fowls; the ſecond, the freſh-water fowls; and the third, thoſe which frequent the woods and fields.

CLASS

Class I. *Of the* SEA FOWLS.

The ſea fowls are found in greater plenty about the coaſt of the Eaſtern Ocean, than that of the *Penſchinſka* ſea; for the coaſt of the Eaſtern Ocean is more hilly and convenient for breeding. 136

The ipatka [*] is well known to all writers of natural hiſtory by the name of anas arctica, commonly called in *England* puffins. It is found upon the coaſt of *Kamtſchatka*, and the *Kurilſki* iſlands, and even upon the *Penſchinſka* bay, almoſt as far as *Ochotſka*. It is about the bigneſs of, or rather ſmaller than, a common duck; its head and neck are of a bluiſh black; the back is black; the belly and all below white; its bill red, and broad towards the root, but ſomewhat narrower towards the point; upon each ſide are three furrows; its legs are red, its feet webbed, and its nails ſmall, crooked, and black; its fleſh is hard; its eggs are like hen's eggs; it builds its neſt with graſs on the cliffs of the rocks. The *Kamtſchadales* and *Kuriles* wear the bills of theſe birds about their necks faſtened to ſtraps; and, according to their ſuperſtition, their ſhamans, or prieſts, muſt put them on with proper ceremony, to procure them good fortune. 777 825

Another ſpecies of theſe birds is called meuchagatka [†], and in *Ochotſka*, igilma: this only differs from the former in being all black, and having two yellowiſh white tufts upon its head, which lie all along from its ears to its neck like locks of hair. To the beſt of my remembrance this bird has never yet been deſcribed. Mr. *Steller* and I ſent ſome of theſe ſpecies of birds to the Imperial Muſeum. Among thoſe ſent by Mr. *Steller* there was a third kind which is found upon the iſland *Bondena*, in *Angermannia*, and upon the *Caroline* iſlands; and is ſome- 136

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[*] Alca roſtri ſulcis quatuor, oculorum regione temporibuſque albis. Linn. F. ſuec. v. 42.

[†] Alca monochroa ſulcis tribus, cirro duplici utrinque dependente. Anas arctica cirrata. Stell.

X what

136 what leſs than the other two; its colour is like that of the ipatka, except that its bill and legs are black, and that there are two white ſprigs upon its forehead, which reach from the eye to the bill.

The aru *, or kara, belongs to this claſs. It is larger than a duck; the head, neck, and back are black; the bill long, ſtrait, black, and ſharp; the legs black with a caſt of red; it has three black toes, and is web-footed. Great numbers of 237 theſe are found upon the rocky iſlands; and the inhabitants kill 262 them for the ſake of their fleſh, though tough and bad taſted; but more ſo for their ſkins, of which, as well as thoſe of other ſea fowls, they make themſelves garments. Their eggs are reckoned a great delicacy.

136 There are two kinds of tchaiki, or cormorants, found upon this coaſt, which are hardly obſerved any where elſe. They are about the bigneſs of a gooſe, have a ſtrait reddiſh bill about five inches long, and ſharp on the edges, and four noſtrils, ſuch as other cormorants have, two being near the forehead as are found in other birds which are thought to prognoſticate ſtorms, and are thence named Procellaria; their heads are of the middling ſize; their eyes black; their tails eight inches long; and their legs are covered with hair to the knees, but below them are bare; they have three toes of a bluiſh colour, and are web-footed; their wings extend more than a fathom; they are ſometimes ſpeckled; they appear often near the ſhore, but can't ſtand ſtrait upon dry ground, their feet being ſo near the tail that they are not able to balance their bodies: they fly ſlow even when hungry, but when full of meat they cannot raiſe themſelves from the ground; and, having eat too much, they eaſe their ſtomachs by throwing it 237 up; they have a wide throat, and ſwallow fiſh whole; their fleſh is very tough and ſinewy, therefore the natives ſeldom eat it, but in great neceſſity, killing them principally for the ſake of their

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* Lomvia Hoieri.

bladders,

237 223 bladders, which they uſe inſtead of corks to their nets. The way of catching them is ſingular, being angled for as fiſhes are, in the following manner: they faſten a thick iron, or wooden hook to a long rope or ſtrap, baiting the hook with a whole fiſh, the point of which comes out near the back fin, and then throw it into the ſea; this the cormorants obſerving gather about it in flocks, and quarrel among themſelves who ſhall have the prize, until the ſtrongeſt obtains it and ſwallows it; then being drawn on ſhore, they take out the hook and bait by putting their hands into its throat. Sometimes they faſten a live cormorant, which they call a decoy, to the rope, and that it may not ſwallow the bait, tie down its bill with a cord: the others ſeeing the decoy ſwim ſo near the ſhore, come with greater ſecurity to the bait. The *Kamtſchadales* make needle-caſes, and combs to comb their nettles, of the bones of their wings.

136 Beſides the above-mentioned tchaiki, or cormorants, there is another ſpecies which haunt the rivers: theſe are called robbers, becauſe they take the prey from the ſmall birds; their tail is forked like that of the ſwallow.

136 787 The procellaria, or ſtorm birds, are about the bigneſs of a ſwallow; their feathers are all black, except the tops of their wings, which are white; their bill and legs black. They haunt about the iſlands, and before a ſtorm they fly low and ſkim the ſea, and ſometimes into the ſhips, which the ſailors look upon as the ſign of an approaching violent gale.

136 The ſtariki *, or glupiſha, belong to this ſpecies. The ſtariki are about the bigneſs of a pigeon; have bluiſh bills, and bluiſh black feathers about the noſtrils, which look like briſtles; the feathers of the head are of the ſame colour, interſperſed here and there with white ones, which are longer and thinner than the reſt; the upper part of the neck is black, but the lower black and

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[*] Mergus marinus niger ventre albo, plumis anguſtis albis auritus. Stell.

136 white ſpeckled. The belly is white, the wings ſhort, the large feathers
of which are black, and the reſt blue; the ſides and tail are black;
the feet are red and webbed; and the nails black and ſmall: it
223 haunts about rocky iſlands, where it likewiſe builds its neſt: The
Kamtſchadales catch theſe fowls eaſier than they do the tchaiki,
or cormorants: they put on a fur-coat of a particular make, and
letting their hands fall down, ſit down in a proper place, and
wait for the evening; when the birds returning from the ſea ſeek
to retire into holes for the night, and in the dark ſeveral of them
fly into their furs, and are caught.

136 Among the birds deſcribed by Mr. *Steller* are the black ſtarikis *, whoſe bills are as red as vermillion, the right ſide of which is crooked; it has a white tuft upon its head. He ſaw a third ſpecies in *America*, which was ſpotted black and white.

The glupiſha are about the largeneſs of the common river cormorants; and are found upon the rocky iſlands, in high ſteep
places; their colours are grey, white, and black; and are perhaps called glupiſha, that is, fooliſh, becauſe they frequently fly
237 into the boats. Mr. *Steller* ſays, that numbers of them are caught
223 in the fourth and fifth *Kurilſki* iſlands, which the inhabitants dry in
the ſun; they ſqueeze the fat through the ſkin, which paſſes very
136 eaſily, and uſe it for burning. He likewiſe writes that all the
rocky iſlands in the ſea between *Kamtſchatka* and *America* are
covered with them. He has ſeen ſome as large as a gooſe, or an
eagle; their bills are crooked and yellowiſh; their eyes are large
like thoſe of an owl; they are black intermixed with white ſpots
over the whole body. He once ſaw, 200 verſts from land, great
numbers of them feeding upon a dead whale, which ſerved them
alſo to appearance for lodging; and in his paſſage through the
Penſchinſka ſea, he ſaw many of the glupiſha, ſome of which

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* Mergulus marinus alter totus niger criſtatus, roſtro rubro. STELL.

were black, and others white; but none of them came ſo near the 136
veſſel as to be exactly obſerved.

The * kaiover, or kaior, a bird of this ſpecies, is black, with its bill and feet red; builds its neſt, which is very curious, upon high rocks in the ſea, and whiſtles very loud, for which reaſon the Coſſacks call it ivoſhik, or poſt-boy. I never ſaw this bird.

The fowl † urile, of which there is great plenty in *Kamtſchatka*, called, by writers, ſea ravens, is about the bigneſs of a common gooſe, with a long neck and ſmall head; the feathers upon the whole body are of a bluiſh black, except upon its thighs, where they are white and in tufts; there are alſo ſome long white feathers like hairs, here and there upon its neck; it has a red membrane or ſkin round the eyes, a ſtrait bill, black above and reddiſh below; and its feet are black and webbed: when it ſwims it holds up its head, but flying, it ſtretches it out like a crane; it flies ſwift, but riſes heavily; and feeds upon fiſh, which it ſwallows whole: in the night time, theſe fowls ſtand in rows upon the edges of the cliffs, from which in their ſleep they frequently
fall into the water; where they are caught by the ſtone 136
foxes, who watch for them; they breed in the month of *July*; 222
their eggs are green, about the bigneſs of a hen's egg, and 223
being boiled thicken a little, but are ill taſted; however the
Kamtſchadales climb the higheſt rocks in ſearch of them, at the
hazard of their lives. They catch them with nets, and in the
evening with nooſes faſtened to a long pole; and theſe crea- 252
tures are ſo void of apprehenſion, that, though they ſee the 262
next fowl to themſelves taken away, they will ſit ſtill and receive the nooſe, 'till they are all taken off the cliff; their fleſh is hard and ſinewy; but the natives prepare it in

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* Columba Groënlandica Batavorum. Stell.

† Corvus aquaticus maximus criſtatus periophtalmiis cinnabarinis, poſtea candidis. Stell.

such.

252 ſuch a manner that, as victuals are there, it is not bad; they
262 roaſt it in holes dug in the earth, without plucking off the fea-
thers, or taking out the entrails, and when roaſted, they ſkin
and eat it.

825 The natives ſay that theſe birds[1] have no tongue; but this is not
true, for they cry in the mornings and evenings: Mr. *Steller*
compares their noiſe to the ſound of a trumpet.

136 223 CLASS II. *Of thoſe Birds which haunt for the moſt part about the freſh Water.*

The firſt of this claſs is the ſwan, which is ſo common in *Kamtſchatka*, both in ſummer and winter, that the pooreſt perſon can have no entertainment without a ſwan. When they are moulting they hunt them with dogs, and kill them with clubs: in the winter they catch them in thoſe rivers that do not freeze.

136 Here are ſeven kinds of geeſe, which are diſtinguiſhed thus:
large grey geeſe, gumenniki, ſhort necks, grey and ſpeckled,
white necks, ſmall white geeſe, and foreign. They all come here
in the month of *May*, and depart in the month of *October*, as
Mr. *Steller* ſays; who likewiſe writes, that they come from
America, and that he himſelf ſaw them paſs *Bering*'s iſland in
great flocks, flying eaſt in the harveſt and weſt in the ſpring.
In *Kamtſchatka* are principally found the large grey geeſe, the
gumenniki, and the grey and ſpeckled; the ſmall white gooſe is
hardly ever found here. Again, in the North Sea, about *Kolimi*
and other rivers, are vaſt numbers of them; and the beſt down
223 is brought to *Jakutſki* from theſe places. They catch them at
the time they caſt their feathers, in the following manner:—
They build huts with two doors, near thoſe places where they
moſt commonly ſit at night. The fowler putting a white ſhirt on,
above his cloaths, ſteals as near the flock as he can; and ſhewing
himſelf

[1] [Urile, Corvus aquaticus maximus Cristatus periophtalmiis Cinnaberinis, postea Candidis. Stell.]

223 himſelf he creeps away upon his hands and feet towards the hut: then going through it, and obſerving that the geeſe have followed him, he ſhuts the door behind him, and running round he comes in at the other door, which ſhutting likewiſe, he encloſes all the geeſe.

136 Mr. *Steller* obſerved in the month of *July* upon *Bering*'s iſland an eighth kind of geeſe, about the bigneſs of the white ſpeckled Its back, neck, and belly were white; its wings black; its cheeks white, yet ſomewhat greeniſh; its eyes black, with a yellow ring; the bill has a black ſtripe round it, and is red, with a knob like the *Chineſe* or *Muſcovy* geeſe: this knob is bare and yellowiſh, except that along it there is a ſmall ſtripe of bluiſh black feathers. The natives report that this ſort of geeſe is likewiſe found upon the firſt *Kurilſkoy* iſland; however they were never obſerved upon the continent.

223 The people of *Kamtſchatka* have different methods of catching geeſe when they caſt their feathers; ſometimes they purſue them in boats; ſometimes they hunt them with dogs; but moſt of them are caught in pits, which they dig near thoſe lakes where the geeſe haunt, and cover up carefully with graſs: theſe the geeſe coming upon the ſhore fall into, and are caught.

136 There are eleven different ſpecies of ducks in *Kamtſchatka*; namely, the ſeleſni, ſharp tails, tcherneti, plutonoſi, ſvaſi, krohali, lutki, gogoli, tchirki, turpani, and ſtone ducks: of which the ſeleſni, tchirki, krohali, and gogoli, winter among the ſprings; all the reſt come in the ſpring, and fly away in harveſt, as the geeſe do.

The ſharp tails are of that kind which writers call the *anas caudacuta, ſive havelda iſlandica.* They haunt in the bays of the ſea, or about the mouths of great rivers: they ſwim in flocks, and with their cry, which is extraordinary, make no diſagreeable muſick. Mr. *Steller* writes, that the larynx, or lower part of their throat, has three openings, covered with thin membranes. The natives call this fowl aangitch, from their manner of crying.

The turpan is called by writers the black duck*. They are not ſo numerous about *Kamtſchatka* as at *Ochotſka*, where they are caught in great plenty about the equinox. Fifty or more of the natives here going out in boats ſurround a whole flock, which in time of the flood they drive into the mouth of the river *Ochotſka*; and ſo ſoon as it begins to ebb, and the water in the bay turns low, all the inhabitants fall upon them, and kill them with clubs in ſuch numbers, that every one gets 20 or 30 for his ſhare.

The ſtone ducks † have not hitherto been obſerved in any other place; they breed in the ſummer time in the rivers. The drakes are particularly beautiful, their head being like black velvet, and having two white ſpots upon their noſe, which extend beyond the eyes, and end in a clay-coloured ſtripe behind their head: there is a ſmall white ſpot near each ear; their bills are broad and flat, like thoſe of other ducks; they are of a bluiſh colour, and their necks of a bluiſh black; upon their breaſts are black feathers with a white border below; the feathers are ſmaller and broader above; the fore part of the back and belly are bluiſh, but more blackiſh towards the tail; acroſs both wings are broad white ſtripes with black borders; their ſides, under the wings, are of a clay colour; the large feathers of the wings, except ſix, bluiſh; theſe are black and roughiſh like velvet; the two laſt are white with black borders, and the ſecond row of the large wing feathers are all black, the third grey, two only of theſe feathers having white ſpots upon their ends: their tails are ſharp, and their feet pale coloured: they weigh about two pounds. The female is far from being ſo beautiful: her feathers are black, each being ſomewhat yellowiſh at the end, with a ſmall white ſtripe; 136 the head is black, and upon its temples are ſmall white ſpots: it weighs about a pound and a half.

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* Anas niger. WILLOUGHBY.

† Anas picta capite pulchre faſciato. STELLER.

In the harveſt the females are found in the rivers, but none of the drakes: they are very ſtupid and eaſily caught where the waters are clear and ſhallow, for they do not fly away at the ſight of a man, but only dive, and therefore may be eaſily killed with poles, as I myſelf have frequently done. Mr. *Steller* ſaw ſeveral of this kind of ducks in the *American* iſlands.

They catch the ducks with nets in the following manner: 223 in a wood that happens to ſtand between two lakes, or between a lake and a river, they cut a ſtrait paſſage, through which the ducks fly during the ſummer; here in the harveſt, when the fiſhery is over, the natives faſten to long poles ſeveral nets, which in the evenings they raiſe as high as the ducks are uſed to mount: round the nets a ſtring is drawn, by which they can reef them together, as ſoon as they find the ducks entangled; but they ſometimes fly with ſuch force and in ſuch numbers, that they break through. They likewiſe catch them in ſmall rivers with nets ſtretched acroſs the ſtream: but this is a method not peculiar to *Kamtſchatka*.

To this claſs belongs likewiſe the gagari, or columbus, of 136 which there are four ſpecies *, three of which are large, and 825 the other ſmall: the firſt of the largeſt has a tail; the ſecond 787 a clay coloured ſpot upon its neck, a little above the crop: the third is called by *Wormius*, the northern lumme; and *Marſilius* calls the fourth the little lumme. The natives pretend to foretel the change of weather by their crying and flying; for they think that the wind muſt always blow from that point towards which they fly: however they are frequently deceived in their judgment.

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* 1. Colymbus maximus. GESN. STELL. 2. Colymbus arcticus lumme dictus. WORM. 3. Colymbus macula ſub mente caſtaneæ. STELL. 4. Colymbus ſive pedicipes cinereus. *Ejuſdem.*

136 Here are alſo found great numbers of ſmall birds, ſuch as
223 plovers and ſnipes of different ſorts, which they catch with
ſnares and gins.

CLASS III. *Of the* LAND FOWLS.

136 The chief of theſe birds is the eagle, of which there are four ſpecies in *Kamtſchatka*: the firſt is the black eagle, with a white head, tail, and feet. Theſe are rare upon the main land of *Kamtſchatka*; but, according to Mr. *Steller*, they are found in plenty on the iſlands between it and *America*. They make their neſts (which are near ſix feet in diameter, and about a foot thick) of ſhrubs upon high cliffs, and in the beginning of *July*, lay two eggs. The young ones are as white as ſnow: theſe he ſaw upon *Bering*'s iſland, but not without danger from the old ones, which, even when he did not the leaſt hurt to their young, attacked him with ſuch violence that he could ſcarce defend himſelf from them with his ſtick. The ſecond is the white eagle, which the *Tunguſi* call elo: this I ſaw near *Nertchinſki*; however it is not white but grey. Mr. *Steller* ſays, that this is bred upon the river *Hariouſkovoi* which runs into the *Penſchinſka* ſea. The third is the black and white ſpotted eagle. The fourth, the dark clay-coloured eagle, the extremities of whoſe wings and tail are ſpotted: theſe two laſt mentioned abound moſt here.
262 The natives eat the eagles, and eſteem them agreeable food.

Here are likewiſe ſeveral other birds of prey, ſuch as vul-
136 tures, hawks of various kinds, owls, and above all, ravens, crows,
805 and magpies, which are the ſame with thoſe in *Europe*. Be-
825 ſides, here are great numbers of cuckoos, water ſparrows,
growſe, partridges, thruſhes, larks, ſwallows, and ſeveral other
ſmall birds, whoſe appearance in the ſpring the natives expect with
great impatience, and thence begin their new year.

In the concluſion of this chapter we have added a liſt of ſome plants, beaſts, fiſhes, and birds, with their names in the *Engliſh*, *Ruſſian*, *Kamtſchatka*, *Koratſki*, and *Kurilſki* languages.

A

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

A LIST *of ſome* PLANTS, BEASTS, FISHES, *and* BIRDS; *with their Names in the* Engliſh, Ruſſian, Kamtſchatka, Koratſki, *and* Kurilſki *Languages.*

Engliſh	*Ruſſian*	*Kamtſchatka*	*Koratſki*	*Kurilſki*
PLANTS.				
The birch tree	Bereſnick	Hehy	Lugune	
Poplar	Topſucke	Thiſpiai	Yakal	
Willow	Vetelnicke	Liumtche	Tekile	
Alder	Olchoſnike	Sikite	Nikilien	Aſſe
Service tree	Rebenike	Kaihine	Eloene	Koruneni
Juniper	Moſhevelnike	Kabaine	Valvakitche	Pakæpniremamal
Cherry laurel	Tchelemaſnike	Kalhame	Eloene	
Dog brier	Shipovnike	Kavaſhe	Pitctakachatche	Kopokone
Honeyſuckle	Shimſlode	Luſhinike	Nitchivoy	Enumetam
Barberries	Boiariſhnike	Horatenune	Pitkitche	
Brambleberries	Moraſhka	Shiie	Etiette	Apuumenipe
Wortleberries	Golubitſa	Ningule	Lingule	Enumucota
Cranberries	Kliukva	Tchikume	Emelkevina	Afitte
Bulberries	Briuſnitou	Tchahauhe	Tiunaane	Nipopkipe
BEASTS.				
Sea calves	Tiulenne	Kolha	Memele	Retaſtore
Sea beaver	Babri	Kaiku	Kalaga	Rahku
Sea cat	Kotti	Tatlatche	Tatatche	Ounepe
A fox	Liſotſa	Tchaſhiai	Yaivne	Kimutpe
Sables	Cobali	Kembime	Kitighime	Na
Ermines	Gornoſtai	Doitchitche	Imahuhake	Tannerume
A wolf	Volka	Kitaia	Eglinguue	Orgia
Bear	Medved	Kaſha	Kainga	These beaſts are not known in the Kurilſki iſlands
Glutton	Raſſamak	Timmi	Haeppi	
Marmotta	Evraſhka	Ciredatche	Gilnak	
Elk	Oleni	Eluahappe	Lugaki	
Stone ram	Kammenoi barenu	Guadinadatche	Kitipe	
FISHES.				
A large kind of ſalmon	Tchavitche	Tchovnitche	Ævutche	Tchivira
Red fiſh	Kraſhnoiriha	Kchiviſhe	Niovoai	Siitchine
The humpback	Gorbuſhe	Koonautchi	Kalal	Siakipa
Turbot	Kambala	Sigiſigh	Alpa	Tantaka
Lampreys	Minoghi	Kanaganſhe	Unknown	Unknown
Smelts	Korouchi	Innahu		
Herring	Seldi	Neriner		
Skate	Skata	Kopaſhu	Kammiahacke	Kapaſhe
Cod fiſh	Freſka	Battai	Unknown	Unknown
Whales	Kili	Dai	Junghi	Rika
BIRDS.				
Great ſea cormorant	Boloſhoi tchaika	Atuma	Attume	Pengapiphe
Swan	Lebed	Matame	Kamtchan	
Geeſe	Gouſſed	Kſude	Gecloaine	Kuntape
A drake	Celeſna	Baine	Geſtchogatche.	Bakariku
Stone ducks	Kammenia utki	Nikingike	Unknown	Vaiout
Widgeons	Gargari, Aſhoai	Yovaiva		Ceſſe
Eagles	Orli	Selche	Tilmiti	Surgoar
Hawkes	Saboli	Shiſhi	Tilmitil	
Partridges	Kuropatki	Euihtchitche	Euette	Niepue
Crows	Voronni]	Kaka	Tchautchavao-la yelle	Paſkure
Magpies	Saroki	Kahitchectche	Unkitigin	Kakuk
Ravens	Voronitcherni	Hagulhak	Nimetta yelle	
Swallows	Laſtotchki	Kainkutche	Kavalingek	Kuahan
Larks	Javoronki	Tchelaalai	Geatcheiere	Rikintchire
Cuckows	Kokaſhke	Koakoutchitche	Kaikuke	Kahkok
Snipes	Kuiiki	Soakulutche	Tcheiaa	Etchikumama

CHAP. XI.

Of INSECTS.

136/251 AS *Kamtſchatka* abounds with lakes and marſhes, the ſwarms of inſects in the ſummer time would make life intolerable there, if it were not for the frequent winds and rains. The maggots are ſo numerous as to occaſion great deſtruction to their proviſions, particularly in the time of preparing their fiſh, which are ſometimes entirely deſtroyed by them. In the months of *June*, *July*, and *Auguſt*, when the weather happens to be fine, the muſketoes and ſmall gnats are very troubleſome; however the inhabitants do not ſuffer much from them, as they are at that time, upon account of the fiſhery, out at ſea, where by reaſon of the cold and wind few of theſe inſects are to be met with.

136 It is but lately that bugs appeared upon the river *Awatſcha*, which were brought thither in cheſts and cloaths: they are not yet known in *Kamtſchatka*. Upon account of the wet weather and ſtorms few of the butterfly kind are found here, except in ſome woods near the upper *Kamtſchatkoi* fort, where they abound. It has been obſerved that numbers of theſe inſects have ſettled upon veſſels which were 30 verſts from the ſhore: it appears ſomewhat extraordinary that they ſhould be able to fly to ſuch a diſtance without reſting; moſt likely the ſtorms ſo frequent here might drive them out to ſea, and by their violence ſupport them.

136 There are few ſpiders in *Kamtſchatka*; ſo that the women
825 who are fond of having children, and who have a notion that
842 theſe inſects ſwallowed render them fruitful and their labour
eaſy, have great trouble to find them. Nothing plagues the

natives

Nothing plagues the natives in their huts ſo much as the lice and fleas; the 136 women ſuffer moſt from the former, by wearing very long, 515 and ſometimes falſe hair. Mr. *Steller* was told, that near the 302 ſea is found an inſect that reſembles a louſe, which working itſelf through the ſkin into the fleſh is never to be cured, unleſs by cutting the creature intirely out; and that the fiſhers are very much afraid of them.

It is remarkable that in *Kamtſchatka* there are neither frogs, 136 toads, nor ſerpents. Lizards, indeed, are numerous enough, which 825 the natives look upon as ſpies ſent from the infernal powers for 787 information, and to foretel their death: therefore they are very careful whenever they find them to cut them into ſmall pieces, that they may never carry back news to the power which ſent them; and if it happens that the animal eſcapes alive, it throws them into the greateſt grief and deſpair, as they expect every hour to die, which indeed ſometimes happens from their own fear and deſpondency, and then ſerves to confirm the ſuperſtition to others.

CHAP. XII.

Of the TIDES *in the* Penſchinſka *Sea and Eaſtern Ocean.* 133

IT might perhaps appear ſufficient to ſay, that the tides are agreeable in theſe ſeas to what are obſerved in others; but as I made ſome obſervations which appeared to me new, I think it proper to communicate them.

It is a known rule in general, that the ebb and flood happen twice in the natural day, and that the tides are higheſt about the new and full moon: however, I do not recollect that it has been obſerved that the ebbs and floods are not equal here, or that they do

361 different buildings; the entrance into the fort is by a ſmall
563 gate on the weſt ſide. Beyond the fort[1] was a chapel, now converted
R into a church conſecrated to St. Nicholas, with a belfry
177 upon pillars. There are about 30 houſes of inhabitants, one publick
.71 houſe for ſelling brandy, and a diſtillery. There are about
45 Coſſacks; and though their children pay the common head
tax, yet 14 of them do duty with the other Coſſacks. This fort
is the weakeſt of all; but they ſeem to be very ſecure, as the
neighbouring *Kamtſchadales* were almoſt the firſt that ſubmitted,
361 and have always been faithful, and lived peaceably. With regard
R to its ſituation it has great advantages: firſt, all veſſels that
177 come by ſea can come into the Great river, from which they
.71 receive their goods at the firſt hand: ſecondly, they receive great
profits from the perſons that arrive there, whom they furniſh
with lodging and board: thirdly, they are great gainers by the
tranſporting goods from thence to the other forts: fourthly, they
have a better opportunity than the others of getting *Kamtſchatka*
beavers, which is now reckoned a principal commodity: fifthly,
132 in the ſummer they have the greateſt plenty of fiſh, which they
136 catch with little trouble and expence; for this reaſon the commander
in chief of all the *Kamtſchatka* forts generally lives here,
ſending out deputies to the others. The only diſadvantage they
have is, that in the ſummer, during the time of fiſhing, they are
very ſubject to rainy weather, which ſpoils a great many of their
137 fiſh, and thereby reduces them to great difficulties for food. If
this river was furniſhed with wood ſufficient the difficulty might
be removed, as inſtead of drying them in the ſun they might
ſmoke them, as the inhabitants of *Ochotſka* do. But this is impracticable
becauſe of the diſtance of the wood, and the trouble
of bringing it down. It is ſo ſcarce here, that what they abſolutely
muſt have for the boiling of ſalt and train oil, they are
forced to provide at the diſtance of three days' journey, and can
bring no more than will ſerve to make 40 pounds of ſalt.

The upper fort of *Kamtſchatka* was the firſt built, and 361
for ſome years reckoned the principal, as the chief commiſſary 563
lived there. It ſtands upon the left bank of the *Kamtſchatka*, R
near the mouth of the little *Kaly*, about 69 verſts from the riſe of 177
the *Kamtſchatka*, 242 verſts in the ſtraight road from the *Bolſcheretſkoi* .17
fort. It is 17 fathom ſquare; the gate fronts the river, and
over it is a warehouſe. Within the fort is the office for receiving
the taxes, a room for keeping the hoſtages, and two magazines.
Without the fort is a church conſecrated to St. *Nicholas*, the commiſſary's
houſe, a publick houſe, diſtillery, and 22 private houſes for
the accommodation of the garriſon, which conſiſts of 56 Coſſacks.
This fort has the advantage of the *Bolſcheretſkoi*, the weather being 137
here generally pretty good, and the wood, though only poplar, can
be procured with little trouble, and is ſo large and ſubſtantial that
it is very uſeful for building: beſides the ſoil is better here, being
much fitter for agriculture than any of the other parts. The fiſhery 136
is indeed very poor, being at ſuch a diſtance from the ſea. The
fiſh come up in ſmall numbers, and ſo very late, that the
inhabitants of the *Niſhnaſhaltalſki* fort make all their winter
proviſion before they begin to fiſh in the upper fort; ſo that
almoſt every ſpring there is a ſcarcity of proviſions. Their ſalt
and train oil they either buy from the inhabitants of the lower
fort, or, notwithſtanding the great diſtance, they go themſelves
and boil it at the mouth of the river *Kamtſchatka*, which is
400 verſts from the upper fort. Formerly they uſed to have
great plenty of ſea beavers in the Beaver Sea, but at preſent very
few of them are caught; ſo that the inhabitants have their only
hope of ſupport from agriculture, to which if they apply themſelves,
they may expect more profit than from any commerce
with the natives; and, if they neglect it, it will be impoſſible
for them to live there.

The lower *Kamtſchatka* fort is 397 verſts diſtant from the upper 361 R
fort, and ſtands upon the ſame ſide of the river, about 30 verſts 177
.17

361 / from its mouth. The fort is a parallelogram made with paliſades; its breadth is 40, and its length 42 fathoms. In
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.17
the fort is a church dedicated to the Virgin *Mary*, the office and magazine for the taxes, ſtores, and the commiſſary's houſe. Theſe are all built of larch wood, and much neater than in any other fort. Without the fort are 39 private houſes, beſides the publick houſe and diſtillery. The male inhabitants are 92, of all ranks.

136; 137 This fort, with regard to the neceſſaries of life, may be reckoned preferable to any other. Here the inhabitants catch plenty of fiſh, which they dry and ſalt in ſufficient quantities for proviſion through the whole year: here they have wood enough, not only for building their houſes, but alſo for building ſhips, to which the river ſerves as an harbour; and by its proximity to the ſea they boil ſo much train oil and ſalt as to ſupply the other forts. Game is here ſo plenty, that the pooreſt Coſſack ſeldom dines without a ſwan, gooſe, or duck; and through the whole winter, in the ſprings, they catch freſh fiſh. Wild berries of all ſorts are here in great abundance, which the inhabitants lay up in ſtore for the winter, and which next to fiſh is the greateſt part of their ſuſtenance; and the beſt *Kamtſchatka* ſables are caught near the river *Tegbil*. All the goods which they get from the *Koreki*, ſuch as deer-ſkins, and even the fleſh of the deer itſelf, are cheaper here than any where elſe: beſides, this is a moſt fruitful ſoil, where they may cultivate corn of all ſorts. The only inconvenience that they have is, that both *Ruſſian* and *Chineſe* goods are dearer here than at any other fort, which is owing to their land-carriage from the *Bolſcheretſkoi Oſtrog* hither, which coſts four rubles a pood.

361 / The fourth fort was built upon the bay of *Awatſcha*, in the
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pear 1740; and inhabitants were brought hither from the upper and lower *Kamtſchatka* forts. The houſes are tolerably good, particularly thoſe which were built for the people of the *Kamtſchatka*

000 consisted of myself, Mrs. Jochelson as assistant and physician to the party, and eleven laborers, of whom seven were Russians, three Kamchadals and one Japanese.

133 The Osernaya River, with its slanting bed, rocky banks, rapid falls and curves, forms a most difficult and dangerous route of travel. We had two boats and two canoes. One of the boats was for Mrs. Jochelson and myself; the other carried the tents, instruments, food and other supplies. The canoes served for reconnaissance and errands requiring despatch. It was very difficult to make progress on the turbulent river, particularly on the way up. Several times we had to disembark and carry our freight on our shoulders, while the boats were pulled by ropes through the rapids. (See Plate 5, figs. B, C.)

136 While there are no human habitations anywhere in the country, we were amazed to find well-beaten paths in the forests and on the mountains above the river, as if there were numerous human settlements. But realizing that these were roadways made by bears, we walked cautiously amid the dense vegetation with rifles ready for action. We did not see any bears while following these paths, but we heard the breaking and cracking of bushes and tree branches, and on the ground we found pieces of fresh salmon, the remnants of the bears' meals. The animals are very nervous and easily become alarmed. They have sufficient reason to be afraid of a man with a gun.

It is well known that at Lake Kuril and in its vicinity scores of bears are to be found. The abundance of fish and of many kinds of berries furnishes them ample food and favors their increase in number. The sparsity of human population is also favorable to the multiplication of the bears, although the few hunters of the coastal villages annually kill them by the hundreds.

133 After five days of painful effort we finally reached our destination. It was a windy day and our frail boats nearly capsized on the stormy lake, which is sur-
515 rounded by the peaks of extinct volcanoes and by steaming hot sulphurous springs,
757 the temperature of which reaches 100° C. (210° F.) and more. From our boat we observed steaming springs on the banks of the Osernaya when nearing the lake, but we had no time to stop to investigate them. We were told that the Kamchadal from Yavino and the Russians from Osernaya dig pits by the hot springs for bathing and curing different diseases. The temperature in these baths is reduced to 50° or 40° C.

136 From the head of the Osernaya River I directed my fleet to the Siwusk Cape (see map of Kuril Lake and Plate 5, fig. A). While excavating there we were entertained every day by the sight of bears fishing and gathering berries, particularly when we increased our field of observation by the use of opera glasses. The bears stood with their hind legs in the mountain rivers and creeks, and with their front paws managed to throw out on the banks the sea salmon, which in order to spawn ascend the rivulets that flow into the lake. The bears went after their prey and eating off the heads and spines, which are the most palatable parts of the fish, cast away the remainder. Their movements, turning, leaping and jumping, were so amusing that we could not restrain our laughter.

000 My laborers were anxious to hunt bears, but I could not allow them to go on such an undertaking as the time was short and a Government steamer was expected on a certain date at the mouth of the Osernaya River to take my party to Petropavlovsk. However, I once allowed two of them to go for a night hunt and they secured a little bear cub. They cooked and ate the meat.

On the morning of our contemplated departure from Lake Kuril, when all the specimens found in the excavations had been packed, the lids of the boxes nailed down and the boats loaded, I was tempted to linger just a little longer upon seeing two she-bears playing with their cubs on the other side of a pond in the rear of the promontory. I accordingly delayed my departure until the afternoon, and singling out two of the best marksmen from my party, and equipped with a stereoscopic camera and a motion-picture camera, I started in the direction of the bears. We had to undress in order to cross the Etamenk River in the rear of the promontory, and to carry on our heads the bundles of clothing, the rifles and the cameras, so that they might not get wet. We reached the other bank of the river, dressed ourselves, and tried to pass as noiselessly as possible through the little jungle which led up to the open meadow where the she-bears were playing with their cubs.

We stopped on the outskirts of the forest and put up the cinema and stereoscopic cameras. As the bears were still too far away, I told one of my two men to make a circuit about them and frighten them from the rear so that they might come nearer to us. Both cameras were in readiness to take pictures, when suddenly at a distance of about thirty yards appeared a young black bear quietly passing by. I quickly took a stereoscopic snapshot and was about to start with my cinema, but the bear became frightened by the clatter of the falling shutter of the photographic camera and, instead of running away, rushed in our direction. We had no choice but to aim at his head and fire as he neared the camera.

After ascertaining that the bear was dead, we looked around. None of the other bears were to be seen; they had been frightened by the shooting and had disappeared. As I could not remain on the lake any longer, I had to give up the idea of another attempt to approach bears with peaceful intent. The bear that was killed appeared to be not more than three or four years old. I took the skin and the meat of a hind leg for the laborers.

We returned to our camp late in the day and were compelled to spend one more night on the promontory. Next morning, our archæological mission fulfilled, we started our journey to the sea.

172 The proceedings and results of the excavations were as follows: I selected for
133 digging the ancient village site on a cape or rather a small peninsula in the south-western part of the lake. The Kamchadal call this cape Siwusk (see map of the
● 136 lake). The village was located on the rocky extremity of the cape and on its slope near the small inner lake. The extremity of the cape rises over the lake about 16 meters. The sides of the inner lake which join the cape with the mainland are about six feet wide. From both sides of the cape two small mountain rivers empty into the lake.

136 divert themſelves in this river,[1] the ſurface of which is ſometimes covered by them; but it is difficult to approach near enough to ſhoot them. Game does not appear to be ſo common. But for the tracks of the bears, and the half-devoured fiſh, which continually preſented themſelves to our view, I ſhould have believed that they had impoſed upon me, or at leaſt that they had exaggerated, in telling me of the multitude of theſe animals with which the country abounds; we could perceive none; but we ſaw a great number of black eagles, and others that had white wings; magpies, ravens, ſome partridges, and an ermine walking by the ſide of the river.

000 Upon the approach of night, M. Kaſloff rightly judged that it would be more prudent to ſtop, than to continue our route, with the apprehenſion of encountering obſtacles ſimilar to what had already impeded

our

[Bolchaia-reka--analyst]

262/372 ſea wolves are alſo eaten; the fat of this fiſh is very wholeſome, and ſerves them beſide for lamp oil.

136/252 262 Among the vegetables which are made uſe of by the Kamtſchadales, the principal are *ſarana* root, wild garlic, *ſlatkaïa-trava*, or ſweet herb, and other plants and fruits nearly ſimilar to what are found in Ruſſia.

The *ſarana* is known to botaniſts*. Its ſhape, its ſize, and its colour have been deſcribed at large in the third voyage of captain Cook. Its farinaceous root ſerves inſtead of bread †. It is dried before it is

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* By the name of *lilium flore atro rubente.*

† The Coſſacs uſe rye alſo, which makes a ſort of black bread, like that of the Ruſſian peaſants. Government allows them a certain quantity of rye flour, but it is inſufficient, and they are obliged to procure more at their own expence. Some of them lay it up in ſtore in order to profit by its future ſale.

uſed;

136 uſed; but it is wholeſome and nouriſhing
252 in whatever mode it may be prepared.

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From the wild garlic* they make a harſh and fermented beverage, which has a very unpleaſant taſte; it is alſo uſed in various ſauces; the Kamtſchadales are very fond of it.

The ſlatkaïa-trava, or ſweet herb, is pleaſant enough when it is freſh. This plant† has alſo been minutely deſcribed by the Engliſh. It is highly eſteemed by the natives, particularly the ſpirit diſtilled from it. Soon after it is gathered, they ſlit it in two, and ſcrape out the pith with a muſcle-ſhell: they then dry it for winter, and

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* It is called in Kamtſchatka, *tſcheremſcha.* Gmelin denominates it: *allium foliis radicalibus petiolatis, floribus umbellatis.* Vol. 1. p. 49.

† *Spondilium foliolis pinnatifidis.* See Linn. The juice of the rind of this plant is ſo acrid, that it is impoſſible to touch it without bliſtering the hand. In gathering it they take care to wear gloves.

224 ſure with which they count over the ſkins they obtain from them.

136/224 They chuſe for their chace the ſeaſons when the fur of the animal is in its greateſt perfection. Sables are hunted in the beginning of winter. Theſe animals live commonly in trees, and are called after their name; a part of the fur neareſt the ſkin being of the ſame colour as thoſe which they moſt frequent, as the birch, the fir, &c.

The moſt favourable ſeaſons for hunting foxes are autumn, winter, and ſpring. There are four different ſpecies. 1. The whitiſh red fox, which is leaſt eſteemed. 2. The red or bright red fox. 3. The fox called *ſévadouſchka*, the colour of which is a mixture of red, black, and grey. 4. The black fox, which is the ſcarceſt and moſt valuable: it is really of a deep and entire black, except that at the extremity of the fur upon

136/224 the back, which is the longeſt; a grey tint is ſometimes perceptible. Some of this ſpecies are ſingularly valuable. There are two other ſpecies of the fox that may be added to theſe, though they are not regarded as ſuch in this country, the blue fox and the white fox. They are called in Ruſſia *galouboy peſſets*, and *beloy peſſets*; their fur is thicker than that of the reſt of the ſpecies. The foxes of the continent are in general more beautiful than thoſe caught in the different iſlands of the eaſt*, and produce an infinitely higher price.

Rein-deer are hunted in winter, and argali in autumn. Otters are extremely ſcarce in this country; but there is a great abundance of ermines, though, I know not for what reaſon, no pains are taken to catch

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* The Aleutienne iſlands, Schoumagine iſlands, Fox iſlands, &c.

000 ſoon puniſhed. After having travelled a conſiderable number of werſts upon the Kamtſchatka, which I had been delighted to find again, and the width of which in this place particularly ſtruck me, I was obliged to quit it and enter a ſort of ſtrait, where the ſnow, driven by the hurricanes, preſented an uneven and deceitful ſurface. It was impoſſible to ſee or avoid the rocks that ſurrounded me. I preſently heard a crack that told me my ſledge was damaged; it was in reality one of my ſkates broken in two. My guides aſſiſted me in adjuſting it in the beſt manner we could, and we had the good fortune to reach Ouchkoff without any other accident. It was midnight, and we travelled this day ſixty-ſix werſts. My firſt care was to refit my ſledge, which detained me till the next day.

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There are in this village one iſba, and eleven balagans ; the number of inhabitants

is reduced to five families, who are divided 361
into three yourts. In the neighbourhood 136
is a lake which abounds ſo much with fiſh, 438
that all the villages round reſort to it for their winter ſtock. It is alſo a conſiderable reſource for the capital, which would otherwiſe be almoſt deſtitute of a proviſion of the firſt neceſſity throughout the peninſula.

I left Ouchkoff early in the morning, and 361
at noon had travelled forty-four werſts, partly upon the Kamtſchatka, and partly acroſs extenſive heaths. The firſt village I came to was Kreſtoff. It was a little larger than the preceding oſtrog, but ſimilar in other reſpects to what I had before ſeen. 000
I only ſtayed to change my dogs. Hitherto I had purſued the road which M. Kaſloff was to take to get to Yelofki; but inſtead of proceeding like him to Khartchina, I directed my courſe, upon coming out of

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CHAPTER VI.

KAMSCHATKA (*continued*).

Abundance of bears—Ptarmigan—The Palæarctic region—Valley of the Bolcheresk—Arrive at the Kamschatka River—Dense growth of annuals—The sable—Methods of catching it—Puschina—Kamschatkan birds—Vergiaski fishes the river—Kamschatkan salmon—The Tchervitchi—Krasna—Haiko—Garbusa—Kisutchi—Gultsi—Other salmon—Habits of bears when fishing—We arrive at Sherowmy.

136/137 We left Gunal on the morning of August 27th. Our two days' rest had done us all good, and Cook's disabled leg, which had at one time caused us some anxiety, was sufficiently well to risk going on. The injured member had not prevented his superintending the making of some most excellent bilberry jam. We had killed a fatted calf, of which, after much haggling, we had become the possessors for the sum of twelve roubles; and the carcase had been duly converted into veal and a good supply of stock. From our saddles hung several couple of mallard, and the larder on the whole was in as satisfactory a condition as it well could be. We had woke to a heavy mist, which rendered even near objects distinguishable with difficulty, but it lifted gradually under the rays of a bright sun, and before we were well off, and had turned to catch the last glimpse of the beautiful scenery around our late camp, the day had become all that the most *exigeant* of travellers could desire. Under hot suns like these the signs of autumn appear with wonderful rapidity, and we noticed that the tints were distinctly brighter than they had been but three days before.

000 Before us lay the peaks of dazzling snow, and it seemed as though all Nature were hushed and worshipping at that throne of spotless purity.

Rest and purity then—the unattainable, in other words—in these lie the charm. The fairest tropic scene holds no deeper meanings such as these. Beauty of form there doubtless is, a far greater beauty perhaps than that of northern climes, but, after all, it is but soulless. The teeming life of a tropic forest, the marvellous wealth of vegetation, the reckless sacrifice of the weakest, produce upon the mind the same effect as do the streets of a crowded city. No grandeur of "calm decay," no pathos of the changing seasons is here. It is a fierce struggle for existence, fatal to any except the most purely material thought.

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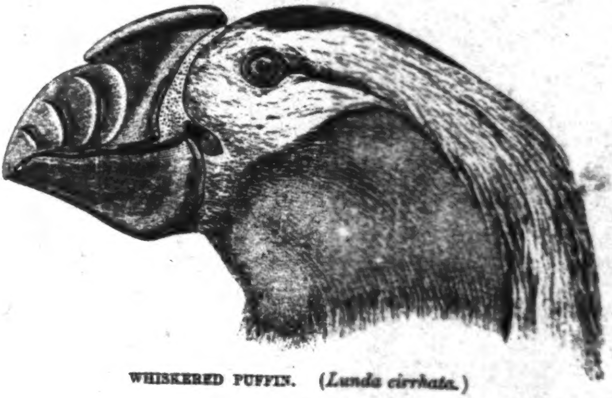

WHISKERED PUFFIN. (*Lunda cirrhata.*)

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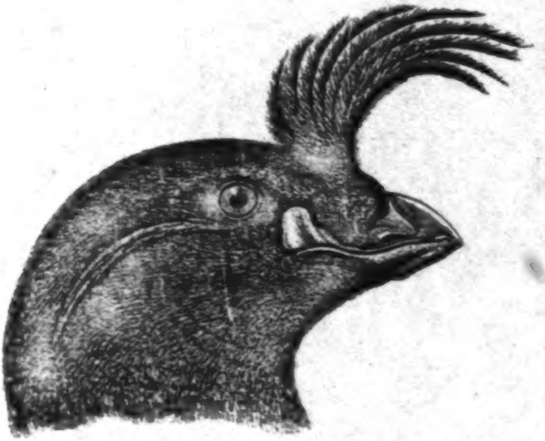
137 The shores of Avatcha Bay extend to the traveller a more smiling welcome than the iron-bound coast outside. Here, the lower hills slope gently down to beaches dotted with driftwood, or, covered with birch and heather, steeply overhang the sea. Behind they are backed by higher ranges clothed with undergrowth, and rising to the height of fifteen hundred feet or more. To the north-west only is this basin-like appearance broken, where the small

133 Paraminka and Avatcha rivers have formed a delta with innumer-
137 able mouths. Low ground also intervenes between the three great
volcanoes and the bay, but the height of the mountains annihilates
136 the distance. Hardly a sign of human habitation is to be seen, but
the calm surface of the water is broken by quantities of water-fowl,
whose nesting-places are the steep rocks at the entrance of the bay.
Most noticeable among them are the Whiskered Puffins (*Lunda
cirrhata*), and the still quainter-looking Tufted Auks. The little



TUFTED AUK. (*Simorhynchus cristatellus.*)

133 village of Petropaulovsky is invisible, hidden behind a steep pro-
montory forming the western boundary of its harbour. What an
admirable harbour it is from a sailor's point of view can best be
seen by a glance at the engraving. From the end of this pro-
montory a shoal extends nearly to the other shore, but leaves a
channel deep enough for ships of the largest draught. Within this
again a sand-spit,—so straight, so narrow, and so regular in form, that
it is hard to believe that it does not owe its existence to the hand
of man,—runs out from the opposite shore to within a stone's throw
000 of the promontory. We steam in steadily towards the land; to an

Every year the port is visited by a

439/505 Russian cruiser, and, if her officers should chance to be as excellent companions as I have on every occasion found those with whom I have been brought into contact, a traveller might possibly get the offer of a passage, which, if he has command of the French language, a strong head, and an unlimited capacity for sweet champagne, should be enjoyable enough. A steamer, or steamers, belonging to the Alaska Commercial Company make two voyages annually to the port, to ship the furs awaiting them there and at Bering Island. They start from Yokohama, and it would no doubt be possible to obtain a passage. On leaving Kamschatka for the second time, however, these ships do not return south, but proceed direct to San Francisco.

136/226 241 The weather upon our arrival was pleasant and invigorating to a degree; the days absolutely hot, with a brilliant sun and wonderfully clear atmosphere, and the nights cold, but bright. But for the mosquitoes nothing could have been more enjoyable. These pests, which render life in a northern climate almost unbearable during the summer, were not very numerous in Petropaulovsky itself, but in some parts of Avatcha Bay we found them abundant, while in others not one was to be seen. As every one knows, the presence of these insects is almost always dependent on the existence of marsh, low-lying ground, or clumps of birches and other trees in the neighbourhood; but here, oddly enough, we found no such reasons to account for their erratic distribution. The little gardens of the settlement were aglow with bright flowers, though choked with weeds and coarse grass. But little cultivation was to be seen; a few patches of potatoes, cabbages, and such like garden produce, surround the cottages here and there, but there are no cereals. Rye ripens in some parts of the valley of the Kamschatka River, and would probably do so here, according to Dr. Dybowski, but its growth is not attempted. To the Kamschatkan the harvest of the river and the sea is an affair of such supreme importance, and demands so much of his time, that he has but little leisure for agriculture even if he had the inclination.

231 492 the fact is taken into consideration, that for every inhabitant of the peninsula there are at least five or six of these animals, it will be understood that the effect produced is hardly inferior to that exhibited by the streets of Constantinople. "A dog's life" is a phrase which is here most appropriately realised. No comfortable homes are provided for them to enable them to withstand the rigours of the arctic climate, and the poor beast, except when actually at work, has in most cases to "find himself." Long experience, and the instinct transmitted to him by his ancestors, has, however, given him all the resources of an old campaigner. Stumbling at night about the uncertain paths of the settlements, the traveller is not unfrequently precipitated into the huge rabbit-burrows which the animal constructs to avoid the cutting winds. His coat, nearly as thick as that of a bear, is composed of fur rather than hair. As for his manners, they are, like those of the midshipman's savage, almost non-existent. He has thoroughly grasped the fact that self-preservation is the first law of Nature, and does not scruple to act upon it, in its widest meaning, upon every occasion. Wonderfully well-trained, cunning, and enduring, he is at the same time often obstinate and unmanageable to a degree, and is apparently indifferent to the kicks and blows so liberally showered upon him by his master. Excepting in settlements where neighbouring stretches of *tŭndra* render the use of sledges possible in summer, he has a long holiday during that season. During this time he wanders over the country at will, sometimes returning at night to his burrow, at others being absent for days together. A good hunter and fisherman, he supports himself upon the game and salmon he catches, and it is but rarely that he deserts his master for good. But the inhabitants have to pay a good price for
231 136 his services. Owing to his rapacity, it is impossible to keep sheep, goats, or any of the smaller domestic animals, and Kamschatka is one of the few countries in the world in which fowls are unknown.[1]

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[1] In Petropaulovsky this loss is partially made up for by large quantities of sea-birds' eggs brought from Okhotsk, and the islands at the mouth of Avatcha Bay.

231 136 *Rien n'est sacré pour un sapeur.* Raw hides, boots, and even babies, it is said, occasionally vary his diet!

To our ship's crew Petropaulovsky appeared little less than a paradise. The bright sunny weather and clear cold nights were a pleasant change after the heat of the tropics, and the forecastle mess was furnished with many unaccustomed delicacies. The
136 harbour and rivers teemed with fish; periwinkles *à discretion* were
137 to be had for the picking, and milk and bilberries were abundant. The whiting and herrings were, however, left in comparative peace, owing to the ease with which salmon were to be obtained at the mouths of the Avatcha and Paraminka rivers. On one occasion no less than three hundred of these fish were obtained at one haul of the seine, and the crew occupied themselves in salting, smoking,
000 and otherwise preserving the spoil. Jack was in his element, and doubtless would not have objected to passing the rest of his life in such a fascinating spot. Our shooting excursions to various parts of the bay were much enjoyed by the boats' crews, and the forward part of the ship began ere long to be ornamented with bearskins that the men had obtained by purchase or barter from the natives. Meanwhile we had been making arrangements with the Ispravnik, and the individual I have before mentioned under the title of the King of Kamschatka, for the ponies that were necessary for the first part of our journey; but, as there was some delay in getting
133 together the requisite number, a party of us started to visit the hot springs of Kluchi,[1] which lie some few miles from the shore on the other side of the bay. Excepting during strong south-easterly winds, which send a somewhat heavy swell into the entrance, the passage across is generally pleasant enough even in small boats. Though blocked with ice in the winter, the bay is, we understood, but rarely frozen right across, although the harbour of Petropaulovsky is, of course, closed for some months. Landing in a bay north-west of the entrance to Tareinska Harbour, we passed through an extensive birch-forest, and emerged at length on the shores of a

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[1] Kluchi, I believe, is the Russian word for springs.

136 137 Avatcha River, and forty versts from Petropaulovsky. We passed
through the same monotonous forests of birch as before, which, like
487 those of other northern countries, seemed singularly devoid of
animal life. An occasional coal tit, which from its note and habits
appeared identical with the tame little freebooter of our own
gardens, or the tapping of a woodpecker,[1] alone broke the almost
death-like stillness which reigned around. We had struck a well-marked
trail, and progressed in Indian file, the packhorses (tied in
fours, each to the tail of the one in front) leading the way, and
relieving the monotony by an occasional breakdown or a stampede.
231 Almost all these ponies are strong and well shaped, but from
the ill-treatment they receive at the hands of their masters, have
learned to bite, kick, and shy on all occasions, together with other
accomplishments of like nature which were somewhat apt to disturb
000 our equilibrium. There was but one saddle among us, and
the "Kamschatkan Peats," as we named the combination of pillow
and pack-saddle which we used as a substitute, though comfortable
enough when we ambled along quietly, were apt to become slightly
insecure when, as a naval member of our party expressed it, we
"made bad weather."

The path between Stari-ostrog and Petropaulovsky appears to be tolerably well-travelled, to judge from the frequency with which we came across the marks of old camping-grounds, but we met with no one on our way. It was afternoon when we reached the river, and crossing a small affluent, found ourselves opposite the village. We had ridden on ahead, and were hailing the natives for canoes in which to cross, when a tremendous clattering in our rear caused us to turn, and we beheld the cook's horse advancing in full stampede, but minus his rider. Beneath his belly a large canteen swung violently from side to side, half-open, and discharging a shower of tin cups, knives, forks, plates, tea and coffee kettles, and other articles of like nature in all directions. We retraced our steps sadly, picking up such articles as we could find, but

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[1] *Picus tridactylus*, considered as a distinct species (*P. albidior*) by Dr. Stejneger.

000 among them was no trace of Cook. Presently we came upon
that imperturbable gentleman, placidly smoking a cigarette. He
explained the matter in a few words:—"Very sorry, sir, but"
(indicating the horse) "I've never been shipmates along o' one of
them things before!"

133 We crossed the river in two dug-out canoes lashed together.
136 These boats are as a rule small, and without attempt at elegance
501 in shape, such as one sees in Borneo and other parts of the Malay
Archipelago. Where the rivers are shallow, long poles are used to
propel them, and indeed the natives always seem to prefer this
implement to the paddle, wherever its use is possible. The Avatcha
River is here about eighty yards in breadth; shallow for the most
226 part, but with a centre channel about seven feet deep. It appeared
to be teeming with salmon. Stari-ostrog, situated on the right
251 bank, consists of ten huts and a large number of fish-drying sheds.
262 The long Kamschatkan winters, during which it is difficult to
361 procure food of any kind, and the consequent necessity of fish as
an article of diet for almost every living creature in the settlements
—the cows and horses even not excepted—create a need for a very
large number of these buildings; and the consequence is that, to
the eye of the new-comer, the villages appear very greatly larger
than they really are. Scanty as the population of this wild country
is, the amount of salmon annually consumed is absolutely enormous.
At this little village, for instance, we were told that, during the
season, 20,000 fish would be no uncommon catch for a single day!
Here, however, owing to there being no other settlements higher
up the river, they are permitted to stake the stream right across
from bank to bank, and the number of fish thus obtained may
probably be in excess of that in other places. The labour expended
in gathering so abundant a harvest is, of course, very considerable,
and during the season the inhabitants work day and night to get
in a sufficient supply for the winter.

563 We were greeted by the headman and brought to his house,
where we were regaled with milk, sour cream, coarse rye bread,

[Avacha--Analyst]

132 at the base of the low range of hills bounding the plain,—the finger-marks, as it were, of the icy grip of winter.

231 361 We reached Narchiki early in the afternoon, and were greeted by the prolonged howls of innumerable dogs. Though the village boasts of only six huts, there are over one hundred and fifty of these animals to pull the sledges of the inhabitants by day, and to endeavour, in combination with other equally hungry, though happily smaller creatures, to disturb their rest by night. The sledge-dog, indeed, appears to do without sleep, and anything more hideous than their nocturnal concerts it would be difficult to imagine. Fortunately an open-air life and hard work are not generally compatible with insomnia, and after a few nights the traveller would be more apt to miss his music than to abuse it.

133 136 226 Narchiki is placed on a little branch of the Avatcha River,
which is here not more than eighteen inches deep. Standing upon
its banks we began for the first time dimly to realise the vast
numbers of fish which must annually visit the country, and which
may be said literally to choke its rivers. Hundreds were in sight,
absolutely touching one another; and as we crossed the river our
136 horses nearly stepped upon them. Their back fins were visible as
226 far as we could see the stream, and aground and gasping in the
shallows, and lying dead or dying upon the banks, were hundreds
more. The odour from these decaying fish was distinctly perceptible at a distance of a couple of hundred yards or more. In weight these salmon varied from seven to fifteen and even twenty pounds. They were for the most part foul fish,—blotchy with patches of red and white, and of the kind known by the Russians as the Garbusa;[1] but others in fair condition were to be found, and with a little trouble I was able to pull out three good ten-pound fish in as many minutes with a gaff. Any other method of fishing would have been useless. It would have been nearly impossible to make a cast without foul-hooking a fish, and nine-tenths, or more of them, were in an uneatable condition. Had we wished to do so, we

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[1] *Salmo proteus* of Pallas.

136/226 could have pulled these latter out of the water with the gaff until we were tired.

While we were engaged in procuring our supper by this simple method, a native came down and watched our proceedings. Taking a spear he went a little way up stream, and soon returned with half a dozen fish which were a great improvement upon our own selection,—for I can apply no better term to it. They were of three species:—one a long charr-like fish, of a brilliant salmon-colour beneath, but with the back dark green, and with a most peculiar lower jaw. This closes into a sort of groove or socket in front of the upper jaw, producing a very extraordinary under-hung appearance. Its native name is Gultsi.[1] The other fish were a grayling (*Thymallus*) somewhat like our own, but not so deep; and a species of trout with obsolete spots.

The vast quantities of salmon which fill the rivers of Kamschatka in the manner I have described cease in course of time to astonish the traveller, who goes down to hook his supper out of the stream as naturally as he gathers the firewood to boil his kettle. But to a new-comer the sight is an astounding one. The millions of fish that are caught, and form the food throughout the year of almost every living creature in the country, are, however, as nothing compared with the countless myriads that perish naturally. I had at first supposed that the rotting fish that lined the banks, and here and there lay piled in little heaps together, were the victims of some unexpected and fatal epidemic. But I soon learnt that there was nothing unusual in it, and that it was an annual phenomenon of as constant occurrence as the breaking up of the ice.

000 We entered one of the huts in order to eat our lunch and rest the horses before proceeding on our journey. It was combined with the stable, through which one had to pass before entering the only habitable room. This was tolerably clean, and boasted of a couple of chairs and a table; but we had already got beyond the region of glass, and the windows were made of strips of bear-gut

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[1] *Salmo callaris*, Pall.

000 sewn together. They admitted enough light, however, to show us
the strange mixture of ornament that hung upon the walls. In the
corner was the usual tawdry *eikon*, and facing it, a long array of
clippings from the "New York Police News," full of the choicest
262 horrors of battle, murder, and sudden death! Amid these lively
136 surroundings we consumed our sour milk and bilberries, and
224 bargained for some potatoes and turnips, which appeared to be
241 grown here in some abundance. Much, no doubt, might be done in
the way of agriculture in many parts of the country were it not that
the fish-harvest and hunting take up so much of the peasants' time.
Of their success in the latter line we had evidence in a fine pair of
horns of the Argali or Bighorn,[1] which lay outside the hut, and had
only recently been shot. These animals, we were told, are not
easily obtained at this season, and do not exist in any great
numbers in the neighbourhood; but in the winter they descend to
the lower spurs of the mountains, and are more easily brought to
000 bag. We much desired to obtain a head and skeleton of this
sheep, but our limited time, and Afanasi's statement that we
should be able to get them on the sea-coast about sixty miles to the
eastward of Avatcha Bay, eventually decided us on relinquishing
the idea of hunting them in this neighbourhood. We were pleased,
however, to be able to prove their existence in the interior, which
has by some previous writers been doubted.

We pursued our journey in a steady downpour of rain, our
track leading through coarse grass and other annual vegetation so
thick that from the back of a horse it was utterly impossible to see
any trace whatever of the way. Our two hunters had donned
their waterproofs,—long coats made from the intestine of the seal,
carefully sewn together with sinew. These garments are tolerably
strong in a thornless country, and though not ornamental, are as
light as a feather, and most effectual in keeping out rain. We
133 passed to the south of some hot springs, about two versts distant from
515 the village,[2] the water of which was said to be of such a temperature

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[1] *Ovis nivicola*, Eschscholtz.

[2] [i.e. Narchiki--analyst]

322 531 ornamented with stamped designs, and are occasionally painted, or rather dyed, with blue and white; while the oval shape so commonly seen in Scandinavia is not infrequent. To the European traveller the tree is equally useful. Cups and other articles can be made with the greatest readiness; fires can be lighted in the wettest weather with the thin inflammable bark, and the inner layers of the latter form excellent writing-paper, the characters on which no quantity of rain will injure or render illegible.

133 136 The scenery some miles north of Narchiki begins to alter in character, an alteration that is distinctly for the better. The monotony of the birch-forests is relieved from time to time by openings where the dense undergrowth is supplanted by little rocky knolls covered with bright mosses. The ground becomes more broken and the open spaces larger, and before long the country approximates closely in character to that which, in Scandinavia, would be designated the lower fjells. We had hitherto shot but little game, but here ptarmigan were abundant,[1] and we were able with ease to secure as many as were necessary for the table. Farther on, we came to a small stream, which was, most probably, an affluent of the Great Bolcheresk River, which debouches into the Okhotsk Sea on the western coast of the peninsula. It was crowded with dead and dying fish; and the remnants of some recently devoured ones upon the bank, together with fresh spoor of bear around them, told us that, in all probability, Bruin was not far off.

I had never before seen the tracks of this animal in such abundance, but farther north it was common enough to see the river-banks as much trampled as if a herd of cattle had been driven down to water. The bears at this season of the year live entirely upon salmon. Later, when this diet fails them, they take to berries, upon which they live until the time of hybernation, which is generally

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[1] Probably a sub-species of, or perhaps identical with, the Dal-ryper or Willow Grouse of Scandinavia (*Lagopus albus*). I unfortunately omitted to preserve specimens of this bird until it was too late, and we did not shoot any after we had once begun the river journey.

136 when the first heavy snow falls, at or about the beginning of the month of October. If in poor condition the bear is said not to hybernate till much later. According to the natives, the animals are tolerably fat on emerging from their dens, and support themselves on grass until the arrival of the fish.

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Our road, some time after leaving Narchiki, had led to the west, in order to avoid a range of mountains of no great height which trends in a south-easterly direction from the village of Gunal. We now turned north once more, and entered a beautiful valley. To the east lay the range we had been circumventing, rising to a height of about 4000 feet, its large patches of snow glittering in the bright sun. The outline of these mountains was most picturesque; and, as we advanced, we opened out a group of *aiguilles* so jagged as to resemble a mass of inverted icicles. The valley was scantily clothed with juniper-bushes and dwarf birches, and early autumn had already touched the landscape here and there with patches of bright yellow. As we rode over the ruddy ground, which with its brilliant parti-coloured moss is so characteristic a feature

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of northern landscapes, we put up several coveys of ptarmigan; and on the outskirts of a small wood we obtained our first Capercailzie, a young bird which, like many other birds of this region, was characterised by the presence of a good deal of white in the plumage. The day was glorious, and so hot that we rode in our shirt-sleeves; our enjoyment only marred by the almost constant stumbling of our horses over the stumps and roots of the trees. The Kamschatkan ponies, which are generally iron-grey in colour, and stand about thirteen hands, are well shaped and have a good barrel, and are capable of a considerable amount of work. Owing, however, to the rough usage to which they are subjected, they are determined kickers, and obstinate to a degree; and it is most difficult to make them lead the way, or, if behind, to prevent them from following in the exact track of those in front. No food is carried for them, and not content with the nightly meal they obtain when picketed, they one and all feed in snatches as they

132 the sun heat was, indeed, so great that we gladly took refuge in the tent, and at noon the mercury stood at nearly 80° Fahr. in the shade. These hot days are not unusual at the end of August, and constitute a sort of Indian summer, which, as in Lapland, is but the immediate precursor of an autumn so short as hardly to be dignified by the name of a season. At sunset the temperature fell rapidly, and at night it was so cold that we were glad of four blankets, the thermometer being at or about freezing point. A range of something like fifty degrees in a single day is not often seen, but weather of an almost exactly similar kind is met with during winter on the high table-lands of Southern Africa. The Kamschatkan autumn cannot always be relied on, for, from what we could gather from the natives, it is not unfrequently attended with a very heavy rainfall, and occasionally with much wind.

136 We had hoped to find Bighorn in the mountains in the neighbourhood, but, greatly to our disappointment, the people of the village[1] told us that these magnificent sheep never come down to the lower spurs of the range before winter, and that it was useless to go after them. This was the second time we had to give up the idea of hunting them. We were, however, more fortunate with the bears, and succeeded in bringing one to bag upon the first day after our arrival.

[1] [of Gunal--Analyst]

000 and notices a familiar-looking wagtail running along the well-trodden paths of the settlement. Overhead, maybe, hovers some bird of prey, which he may recognise as an Osprey or a Hobby; and as he shoots his first grouse, or notes a woodpecker tapping at a tree hard by, he identifies them, or at least thinks he identifies them, with like species he has met with in his own or some Norwegian wood.

In the majority of cases he is right. In others he is, at all events, not far wrong. For, in consequence of the similarity of the fauna which extends over the whole of Europe and Northern Asia, zoologists have been led to group these countries together under the name of the Palæarctic Region, and the species which are common alike to Great Britain and Eastern Siberia are numerous.
136 Kamschatka abounds with birds of wide range with which the European traveller is quite familiar, but its peninsular position has at the same time had a certain influence towards the creation of representative forms, among which those of the Great and Lesser Spotted Woodpecker,[1] the Capercailzie, and the Marsh Tit may especially be instanced. In all these the differences consist for the most part in the greater predominance of white in the plumage, and this tendency to albidism is noticeable, as I have already mentioned, in other animals besides the birds; the dogs and horses likewise showing it in a marked degree.

000 We wasted some time of the morning of August 28th in tracking a large bear that Afanasi had wounded on the previous evening.

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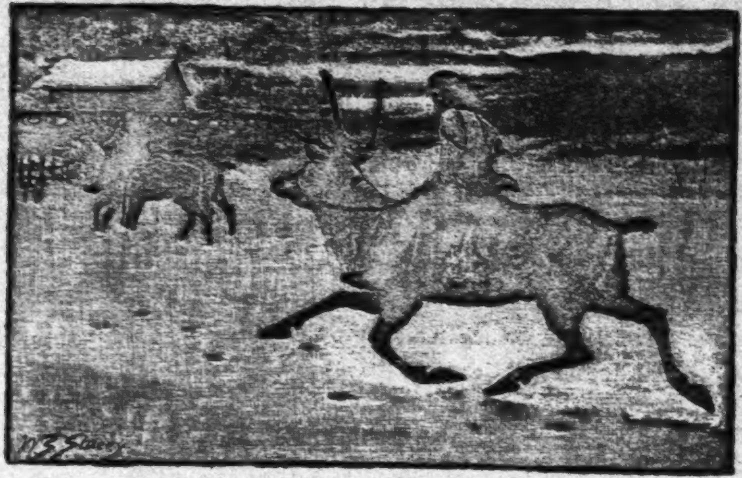
[1] *Picus pipra*, the eastern form of our *P. minor*, is found over the greater part of Siberia, and even in Japan. Kamschatkan individuals are noticeable as exhibiting the characteristics of the species in a more marked degree than those of the adjoining continent. In the same way the *P. major* of the peninsula differs from that of Europe, and has recently been raised to specific rank by Dr. Stejneger as *Dendrocopos purus*. It differs "in having the breast and upper abdomen very pure white, the white of the lateral rectrices without, or almost without, dark markings, and possessing a white spot on the outer web of the longest primaries near the tip." The specimens that we obtained in our journey through the country bear out this description except in the last-named particular. Both these woodpeckers were comparatively common in the country round Gunal.

000 He had been hard hit, and marks of blood were plentifully visible
as we took up the spoor. The vegetation was, however, so thick,
and everywhere so overrun with the trail of these animals, that
before long we had to give up the search, in spite of the aid of
133 Verglaski. We therefore returned, and striking camp, proceeded
136 up the valley of the Bolcheresk River, as on the previous day.
The river here runs due south through a flat plain covered with
yellow grass and about three or four miles in width. It is hemmed in by mountains which are at first of no great height, but as the head of the valley is approached the scenery becomes finer. We rode towards it under heavy rain, but before long the weather cleared, and disclosed to view a gloomy gorge on our right, about eight miles distant, from which the river evidently debouched. At the same time another valley became apparent, joining in from a north-north-westerly direction, and the stream which flowed through it appeared to have the same source as the Bolcheresk, or at least to rise at no great distance from it. We had got at last to the head waters of the Kamschatka River!



REINDEER RIDING, KAMSCHATKA RIVER.

000 having failed, kicked one of the packhorses violently in the belly while unloading it. The effect was excellent. The poor animal, who, like the Pope's mule in Daudet's charming little story, had many an old score to pay off, turned round and bit his aggressor so successfully in the face as to leave him with a portion of his cheek hanging down. Here we interfered to prevent reprisals, and while the conqueror was led off to a patch of the most succulent-looking grass we could find, Vodki retired to his tent to nurse his wound for the next two days.

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Accustomed as we had become during the earlier part of our journey to the wonderfully dense growth of the annual herbage, especially in the birch-forests and in the vicinity of the rivers, I do not think we had ever seen it in more rank luxuriance than we found it here. Our camp was pitched on a little eminence two or three hundred yards from the river, but the latter would have been almost unapproachable had it not been for the numerous bear-tracks that led in every direction through the forest of grass. As it was, the vegetation rose three or four feet above our heads, and was in places so thick that we could never be sure that our next footstep would not precipitate us into one of the hidden streams with which
000 the marshy ground abounded. In such ground shooting is almost impossible, and the only plan is to lie up in concealment on the banks of the river, on the chance of a bear coming out in the neighbourhood to fish.

We spent the remaining two or three hours of daylight in this monotonous and chilling amusement, and rose wet and stiff with cold without any success having attended us. The bears had in all probability deserted this part for some other place where fish were more numerous, and the only recent spoor we saw was that of an otter, an animal that is apparently far from common in the peninsula.

136 The following morning, since there appeared to be no fish in the river, we put our rods together and tried a fly in Kamschatkan waters for the first time. Paradoxical as it may seem, a river of

136 this kind presents the only condition under which this sport is
feasible, at least at this season. With the river choked with foul
and dying fish, where every cast would foul-hook a fish that would
be uneatable on landing, it is of course an impossibility. Here
the stream was free from salmon, but though we hoped to obtain
some trout or grayling, it seemed to be equally devoid of these also;
and having spent an hour or two without getting a rise, we returned
to camp. We found that one of our party who had been out after
capercailzie had been fortunate enough to shoot a sable. The
animal had been found by Verglaski, who had chased and treed it,
and in spite of its not being, from a hunter's point of view, in full
condition, it had been duly added to the bag. Our hunters told
us that it was extremely rare to see sable at this time of year.
The winter coat had begun to grow, and was, indeed, of tolerable
136 length and quite fast. In spring, although the winter fur may be
224 still on, the pelts are said to be quite useless, as the hair drops out
even after the skin has been prepared. The animal measured
twenty-seven inches in extreme length; the tail, which was not
furnished with the thick brush so characteristic of the winter skins,
seven inches; and the value of skin in the Petropaulovsky market
was estimated by Afanasi at four roubles. The price given for
winter sables is, as I have already stated, sixteen roubles.

The sable is always skinned from the tail—bag-shaped—and while performing this operation in the approved fashion of the country, we listened to a sermon on sables and sable-hunting from Afanasi. They are, he told us, for the most part of nocturnal habits, and, though they occasionally feed by day, generally spend that period of the twenty-four hours in holes at the roots, or in the trunks of trees. They dislike the presence of man, and are rarely to be found in the neighbourhood of the villages; their favourite resort being the depths of the forests least frequented by the natives. It is considered that the most inaccessible and least known parts of the country are the best hunting-grounds. They live on hares, birds of all kinds, and in short, almost any living

136/224 thing they can kill, but they are also said to eat berries, and even fish. There are, indeed, but few animals, apparently, which do not live on salmon in Kamschatka. They have only one litter during the year, generally in the month of April, and bring forth four or five young at a birth in a nest in the holes of trees. When the hunter is bitten for the first time by one of these animals, the bite is almost invariably followed by severe illness; but on subsequent occasions no ill effects, with the exception possibly of slight inflammation of the wound, are produced.

There are various methods employed in catching sables, but a less number are trapped now than used formerly to be the case. Dogs are almost invariably employed, to run them down in the deep snow or to tree them; and they are also smelt out by these trained animals in their holes at the roots of trees. The great object is to tree the sable if possible. The hunter then surrounds the base of the tree with nets, and either shakes down his quarry or knocks it off the boughs with sticks. If it does not fall into the net it is run down by the dogs, or compelled again to take refuge in a tree. Should the tree be too high for this method to be successful, it is cut down, or the sable is shot; but the hunters generally avoid the use of the gun if possible, as it is apt to spoil the skin.

The hunters usually start on their winter's expedition towards the end of September, if their destination be a distant one. If it be in better known country and closer at hand they wait until the first snows have fallen, and do not leave before the middle of November. They train dogs especially for the purpose, and a good sable dog is one of the most valuable of a Kamschatkan hunter's possessions. A catch of twenty sables in a season is considered exceptionally good. Jacof Ivanovitch and one of our horse-boys, in company with two other hunters, had on the preceding winter tried some new ground on the shores of the Kronotsky Lake, and had been particularly successful. Jacof had only succeeded in killing fifteen, but our horse-boy had bagged no less than forty; and the total

136 the south. Corvine birds are abundant wherever there are fish, and large flocks of the common crow (*C. corone*) are always to be found perched on the trees in the vicinity of the rivers, or pecking at the piles of dead fish rotting on the banks. The familiar chatter of a magpie, which differs but slightly from our own bird, is as common a sound in Kamschatka as it is in England, and the rigours of an Arctic winter appear to have had no sobering effect upon his character.[1] Ravens too are here, and by the side of the stream runs the Wood Sandpiper (*T. glareola*), almost the only bird of this genus that we noticed on our journey. The surface of the water is dotted with various species of duck, of which mallard and teal[2] are perhaps the commonest. Like everything else, they too seem to regard the dead salmon as a source of food, for in many of those we shot the crop was full of maggots.

We halted for our mid-day meal on the banks of a little stream a few versts beyond Puschina, and while engaged in discussing our wonted dish of cold grouse a fine eagle flew over us, which we were fortunate enough to secure. It was only winged by the shot, and made such a determined resistance to our efforts to secure it, that we eventually had to give it the contents of another barrel. It proved to be a female Erne (*Haliaëtus albicilla*) in not quite mature plumage, measuring six feet eight inches across the wings. The crop contained the remains of salmon, and the bird smelt so atrociously from its prolonged fish diet, and was so fat, that the operation of skinning it was anything but a pleasant one. It was the first example we had obtained, but we afterwards found the species common towards the lower part of the Kamschatka River. The magnificent Pallas's Eagle (*Thalassaëtus pelagicus*) we did not meet with until we had reached the neighbourhood of the great volcanoes.

000 While we ate our meal we watched Verglaski, slow-moving

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[1] This species is another instance of the tendency to white in the birds of this region. It has the extension of that colour on the wings characteristic of the Central Asian Magpie (*P. leucoptera*, Gould), but even more developed.

[2] The Teal were of two species—*Q. crecca*, and another, of which we did not preserve any specimens. It is, I believe, *Q. falcata* of Pallas.

000 and solemn as ever, occupying himself in securing his own dinner. He waded leisurely into the stream, just as a bear would, and stood placidly watching the water for his prey. He was evidently an old hand at the business, and would have sniffed disdainfully at any ordinary kelt. No miserable half-dead Garbusa, such as sledge-dogs are fed on, would have contented him. As a bear-dog, he felt such diet to be beneath him, and, like a true fisherman, looked out for the clean fish. There were not many of them, although the half-rotten corpses on the bank spoke of the numbers of salmon that had at an earlier part of the year frequented the stream. I cannot hope to convey to my readers any idea of the enormous multitudes that yearly visit the rivers of Kamschatka. Krasheninikov, writing more than one hundred years ago, says, "The fish come from the sea in such numbers that they stop the course of the rivers, and cause them to overflow the banks; and when the waters fall there remains a surprising quantity of dead fish upon the shore, which produces an intolerable stink; and at this time the bears and dogs catch more fish with their paws than people do at other places with their nets."[1] We had no opportunity of seeing the advent of the salmon, owing to the lateness of our visit; and the death of the fish is of course not due to the subsidence of the water, as he seems to imply. But that the rest of the statement is devoid of exaggeration we had abundant opportunities of proving. None of us, unfortunately, were ichthyologists, and the rapidity with which we were obliged to travel through the country, combined with difficulties of transport and the want of spirit and receptacles, prevented our preserving specimens. In the following paragraphs I have embodied my notes upon the salmon of Kamschatka with the statements we obtained from our hunters.

136 Every year the various kinds of salmon arrive at the mouths of the Kamschatkan rivers with surprising regularity. The date of the advent of these different species extends from May to mid-

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[1] "The History of Kamschatka," translated by James Grieve, M.D., Gloucester, 1764, p. 143.

136 August; but each has its own time of arrival, which, from its constancy, appears to be more or less independent of seasonal influences. A few fish apparently remain at or about the river mouths during the summer, and eventually return to the sea, but these are so few as to be scarcely worthy of mention. The vast majority—practically all, in fact—ascend the streams to spawn, and, having once done so, die. In the case of some species every fish appears to perish; in others, to which I shall refer, a few get back to the sea.

The kelts of these salmon exhibit, though in a far more intensified degree, the changes that are noticeable in our own salmon after spawning. The jaws are prolonged and hooked, and the teeth much developed. The back becomes somewhat humped—in one species enormously so—and the skin of that region so hypertrophied and spongy as to conceal the scales. Simultaneously the colour of the body surface changes, becoming livid or dusky, and blotched with red patches, or even entirely red. The flesh gets paler in colour and tasteless, and the whole aspect of the fish denotes its unfitness for food. As they ascend the river the salmon keep close together in large shoals, each fish keeping to the shoal of its own species and not mingling with others. Later in the year, after spawning-time, they of course become indiscriminately mixed.

136 226 825 During our visit to, and journey through the country, we met with at least six different species of the Salmonidæ in abundance. That there were others I am quite sure, but in the following list I have limited myself to noticing those only about which we personally obtained information:—

1. *Oncorhynchus orientalis* (Pall.)—Known to the Kamschatkans as the Tchervitchi, this fish is the king of the Salmonidæ both as regards size and flavour. On first arrival the Tchervitchi is silvery, the back and upper surface dark, and marked with dark spots, which also extend on to the dorsal fin and tail. The fish may have a length of four feet or more, and are rather broad: their extreme

136 226 825 weight was given by Afanasi as "over two poods," which would be 72 lbs. We did not see any fish of this size, but a salmon, most probably of this species, was caught by the *Dido's* men in 1855, the weight of which is given by Tronson as 76 lbs. There is no doubt that they commonly run to as much as fifty or sixty pounds. The Tchervitchi is proper to the Kamschatka and Okhotsk Seas, apparently not being found elsewhere. According to Steller, it only frequents the larger rivers, and does not exist to the north of the 56th parallel. He gives the date of its arrival as April 20th for the Kamschatka River, May 10th for the Bolchaia-reka, and June for the rivers in Avatcha Bay. According to Afanasi, it comes up the Kamschatka River "early in May," and gets out of season in July. It certainly appears, as far as we could learn from the natives, to wait for some days at the mouths of the rivers before ascending them, which it does in shoals so large that, as Pallas tells us,[1] a little wave of water is driven up in front of them.

We did not meet with the Tchervitchi until we got to the Kamschatka River in early September. The inhabitants had then long since ceased catching them, and very few remained in the river. The balagans and drying sheds were, however, full of them, and many seemed not to have been in quite clean condition at the time of catching. As a kelt, the fish becomes marked with red on the sides, producing a streaked appearance, and the rostrum becomes hooked, especially in the male, though apparently not nearly to the same extent as in the Garbusa and other species. From the time of entering the river the Tchervitchi is said by Pallas never to feed. We made no inquiries of the people as to this point, but they told us that a certain, though very small proportion of this species do not die, but manage eventually to regain the sea. The flesh is of a rather pale red in colour, and is esteemed by the natives above that of any other fish.

2. *Oncorhynchus lycaodon* (Pall.)—This salmon is known to

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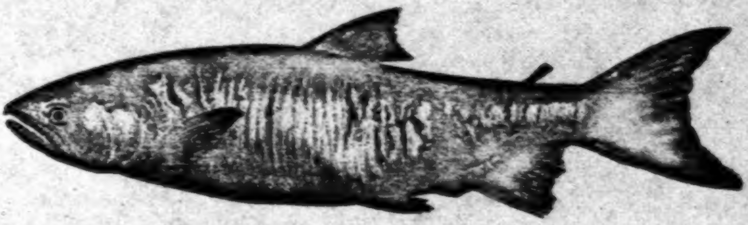
[1] "Zoographia Rosso-Asiatica," vol. iii. p. 368.

136 Kamschatkans[1] as the Krasnaya riba or red fish, but the name is
226 invariably shortened to Krasna. In shape and general appearance
825 it resembles our own salmon. On its first appearance in the rivers it is silvery, the belly white, the back dark with a bluish shade and almost without spots. In length it reaches three feet or more, and large examples would, I should think, scale over thirty pounds. It is found in the Okhotsk and Kamschatkan seas, and extends across to the American coast.[2] In the peninsula it seems to frequent large and small rivers alike, ascending the streams about the end of May or beginning of June, later than the Tchervitchi, but before the Haiko and Garbusa. Towards the end of August the Krasna is completely out of condition. It becomes a bright red all over like a gold fish, and both jaws get prolonged and hooked, while at the same time the teeth are wonderfully enlarged. None of the fish ever reach the sea after spawning—at least so we were informed by the natives;—and as this species is one of the most plentiful of all the Kamschatkan salmon, their bodies strew the banks in nearly as great numbers as the Garbusa.



KELT OF HAIKO. (*Oncorhynchus lagocephalus.*)

3. *Oncorhynchus lagocephalus* (Pall.)—The trivial name of this fish is given by Steller[3] as Kaiko, but we found it invariably known as the Haiko. It is not unlike the preceding species (*O. lycaodon*),

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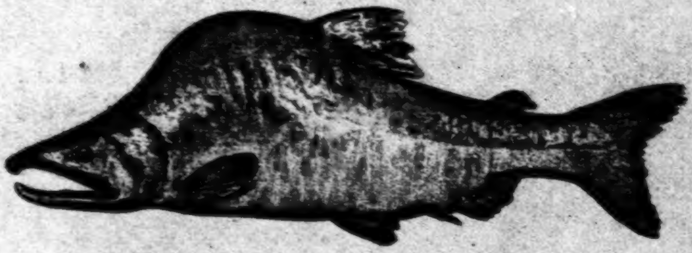
[1] I have here and elsewhere used this term comprehensively as "an inhabitant of Kamschatka." It should not be confounded with Kamschatdale—the name applied to one of the original races inhabiting the peninsula

[2] Steller, "Beschreibung von dem Lande Kamtschatka."

[3] *Op. cit.* p. 157.

136/226/825 the back being dark greenish, the sides silvery, and the belly white, but it differs in the greater bluntness of the rostrum and the pale colour of the flesh. It appears, as a rule, to run smaller than the Krasna: its area of distribution is said to be similar. It arrives at the mouth of the Kamschatkan rivers some little time after the Krasna and Tchervitchi, but its advent coincides more or less with the Garbusa or Hump-backed Salmon. About mid-July[1] this species ascends the streams, and is caught in great numbers. Later, the kelts show much the same changes as those of the Krasna, the jaws becoming much hooked; but they never acquire the deep and generally-diffused red of the latter species, that colour being usually confined to small patches on the belly and under surface. A species of bread is said by Kittlitz and others to be made of the Haiko, but we did not see it.



KELT OF GARBUSA. (*Oncorhynchus proteus.*)

4. *Oncorhynchus proteus* (Pall.) is known to the inhabitants of the country as the Garbusa or Hump-back. On arrival from the sea this fish is said to be without any trace of the extraordinary development of the back from which it takes its name. It is without spots, except upon the tail—which is deeply forked—and is very silvery. It is said to frequent the rivers of the Okhotsk Sea and those of some of the Aleutian Islands, as well as Kamschatka. Roughly speaking, its length is from eighteen to twenty-four inches,

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[1] I have also got "mid-June" in my notes, but I think the date given above is probably the correct one.

136 226 825 and its weight seldom above fifteen pounds. As a rule it is considerably less.

The Garbusa swims up the rivers in company with the Haiko, and is the most abundant of all the Salmonidæ in Kamschatka. According to Pallas, the hump begins to appear even before the fish has spawned, and is generally supposed by the natives to result from the efforts made in ascending the stream! Its enormous development in the kelts can best be realised by reference to the annexed illustration. Both jaws become hooked at the same time, more so, perhaps, than in any other species, and in consequence, in an old kipper the mouth does not nearly close. Until the death of the fish the gibbosity increases, and the colour of the body-surface becomes more and more livid and brown, the sides and under part being irregularly blotched with blood-red. The vast majority of this species die in the month of August, and though some few live till the middle of September, the natives told us that none return to the sea. The flavour of the flesh is said to be very good when the fish first come up the river, but the Garbusa is looked upon almost as the dogs' private property, and is not much eaten by the natives. In the balagans and drying sheds it invariably occupies the lowest tier of all. The female fish is described by Pallas as much smaller than the male, and very much less numerous; the hump does not become so largely developed and the mandibular hooks are absent or slight. We did not, however, meet with many individuals agreeing with this description.

5. *Oncorhynchus sanguinolentus* (Pall.) is the Kisutchi of the Kamschatkans. The clean fish is silvery, and devoid of red colouration, despite its specific name. The dark greenish-brown back is marked with rather large black spots, and the snout is blunt, becoming afterwards developed in a most peculiar manner. Pallas says that the largest measure three feet and weigh from ten to twelve pounds,[1] but it is evident that a fish of this length would weigh considerably more. Most of those that we saw towards the

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[1] "Zoographia Rosso-Asiatica," vol. iii. p. 379.

136 226 825 lower part of the Kamschatka averaged, I should think, about twelve or fifteen pounds; the extreme weights, at a rough guess, being eight and twenty-five pounds.

The Kisutchi is the last of all the salmon to ascend the rivers. It arrives about the 10th or 12th of August, and in consequence is in good condition when most of the other species are uneatable. In the middle of September we found the majority of them clean fish, and it is not till the following month that they usually acquire the blood-stained tinge of the under surface, and the extraordinary snout to which I have just alluded. The latter presents a smoothly rounded protrusion about as large as a sixpence, over-hanging the lower jaw, and giving the fish a very comical expression. We learnt from our two hunters that the Kisutchi were caught until November, and Krasheninikov tells us[1] that they are found "during the whole winter in those springs that run into the Kamschatka from the south," which is possibly due to the fact that the water of some of these streams is warm. It appears to be a generally-distributed species, occurring in all the rivers of the peninsula. The flesh is very pale, almost white.

114 136 226 825 6. *Salmo callaris* (Pall.) is the Goletz or Gultsi of the natives. Krasheninikov says[2] that "the largest fish of this species, which lives sometimes five or six years, comes from the sea into the River Kamschatka, out of which it goes into the rivers that run into it, and by them to the lakes, where it grows almost as big as the *Chavitsi* (Tchervitchi), though it seldom weighs more than twenty pounds. They are found likewise very large in the Bistroy River; there their length is commonly twenty-eight inches, and breadth ten; they are of a dark colour,[3] have large teeth, and the lower jaw is crooked with a knob: it seems indeed of a different species. Those of three years old, which have been one year out of the sea, have a long head, are of a silver colour, with small scales, and

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[1] "The History of Kamschatka," p. 148.

[2] *Op. cit.* p. 149.

[3] Steller also says, "auf dem Bauch und Flossen Zinnober-roth."

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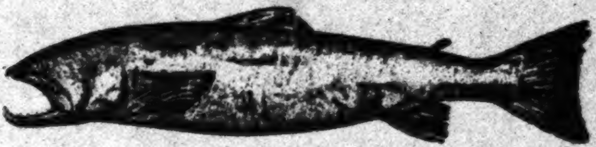
small red spots; and such as have been two years out of the sea are round and longish, with small heads; and their flesh, which is reddish white, is hard and well tasted. With regard to their size, the first year they are long and small; the second they grow more in breadth than in length; the third the head grows considerably; and the fourth, fifth, and sixth years their breadth and thickness increases greatly: in the fourth year also the lower part to the snout becomes hooked."

Pallas adds that "these fish enter the rivers from the Eastern ocean in great numbers . . . in order to hybernate, being still without spots. They are said to remain torpid during the winter in the depths of rivers, in shoals of thousands, until at the return of spring they seek the sea again, from about the 10th to the 20th of May. They surmount cataracts of whatever height by leaping, and in the same manner escape from nets one fathom deep. They force their way into the Kuril Lake near the River Kamschatka,[1] notwithstanding a very high cataract, and hybernate in it in large numbers. Many remain for a long time in the rivers and lakes, but the greater number return in spring to the sea. When they come up from the sea they are without the red tint and spots, and shine with a silvery lustre; during the ascent they become gradually spotted with red, while they acquire a more or less red tint beneath the belly and on the fins, according to the comparative rapidity of the river currents."



GULTCH (*Salmo callaris.*)

Both the above accounts are very difficult to reconcile with that

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[1] It is difficult to understand what lake is here meant. The Kuril Lake is at least 170 miles distant from the nearest point of the Kamschatka River.

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114 given us by the natives of this fish. In the first place the Gultsi,
136 as pointed out to us, was a long fish with somewhat rounded sides;
226 the under surface of a most beautiful salmon-colour, the body
825 marked with pink spots, and the back and upper surface dark greenish. The fish were in perfect condition, the coloration being evidently normal, and not due in any way to disease. To a piscatorial, though un-ichthyological eye they were Charr; a fish with which I was quite familiar in Lapland lakes and rivers,[1] but they differed in having the curious, upturned lower jaw to which I have already alluded.[2] The fish that Steller mentions, with their great breadth (depth) of ten inches, cannot well be of this species; and their migratory habits, and the fact that when they come from the sea they are "without the red tint and spots," is, I believe, opposed to what is as yet known of the life history of the Charrs. The natives distinctly told us that the Gultsi remains in the rivers throughout the year.

Two other species of salmon are mentioned by Steller as occurring in Kamschatka:—the Kundsha (*S. leucomænis*) and Mykysha (*S. purpuratus*), but we did not meet with either of them.

Late in the afternoon we arrived at some open grassy pools, the
133 head of a small affluent of the Kamschatka River. Mallard and teal
136 were abundant, and having refilled our larder, we turned our attention to the numerous salmon that were splashing about in the shallow water. Whether owing to the fact that the stream was slightly warm or not I cannot say, but the majority of the fish were in better condition here than we had hitherto generally found them, and were in consequence less easy to gaff. After a few minutes' waiting we were, however, able to obtain our supper in the shape of two or three fine Kisutchi of from ten to fifteen pounds weight.
000 Salmon is never eaten to such perfection as in camp-life, where the interval between its death and digestion is reduced to a minimum;

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[1] In some of the lakes in Lapland the Charr grows to a very large size. I have seen one which scaled over fourteen pounds.

[2] *Vid. ant.* p. 99.

000 and whether boiled or fried in steaks, the fish has a delicacy of flavour that is rarely met with at a civilised dinner-table. But, of all methods of cooking it, one is pre-eminent in its excellence. Cleaned, split, and gutted, the salmon, which should be a small one, is impaled upon a Y-shaped forked stick, and placed half over the fire, so that it may be exposed to the occasional action of both smoke and flame. A certain amount of attention is necessary to see that it does not get too much of either, and care should be taken to turn it tolerably frequently. But if properly done—and, those who have tried it will bear me out—the dish is one fit for the gods, and loses nothing from the simplicity of the necessary apparatus.

We broke camp at noon on the following day, being within easy distance of Sherowmy, where we calculated on beginning our river journey. A heavy shower fell as we were striking the tents, wetting much of our baggage and our ornithological specimens before we could get them under cover, but the weather soon cleared, and we continued our march. Our long cavalcade proceeded in Indian file over the desolate and monotonous stretches of bilberry-covered open and stunted birch-thicket,—a type of country which, however exhilarating beneath a bright sun, is depressing to a degree under grey skies and driving rain. The wind held steadily from the west, however, and having made sure of the direction in which Sherowmy lay, we left the party, and turning our horses towards the river, devoted the remainder of the day to a search for bears. We had no sooner taken up our positions by the river-side than the wind shifted, fell light, and then shifted again, and all
114/136 hopes of getting a shot vanished. Of there being bears in the vicinity we had abundant evidence, for the banks of the river were trampled in all directions with their fresh footmarks, among which it was easy to recognise those of an old animal of great size.[1] The

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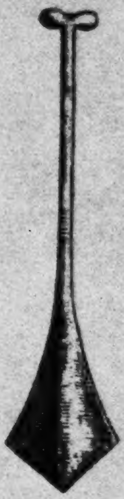
[1] Some of these Kamschatkan bears are enormous. One skin in my possession measures eight feet three inches in length, in spite of the greater part of the head being wanting.

114 remains of many half-eaten fish lay on the banks. The bears are
136 said by Kittlitz and others only to eat the head and upper part
when the salmon are plentiful, but in almost every case we found that, though the head had been crunched up, it had, together with the tail and intestines, invariably been rejected. We were never fortunate enough to witness these animals fishing, but we were told that they walk slowly into the water where it is about eighteen inches in depth, and facing down stream, stand motionless awaiting their prey. The incautious fish, swimming heedlessly up the river, doubtless mistakes the bear's broad legs for a rock or tree-stump, and those who have once witnessed the almost lightning-like rapidity of a stroke from Bruin's fore-paws will have no difficulty whatever in completing the drama for themselves. The fish is apparently always taken to the bank to be devoured, for even the small ones do not seem to be eaten whole.

552 Sherowmy, or Sherowm,—for the Kamschatkans are fond of
144 clipping the exuberance of their words, and turn Kamakoffskaya
157 into Kamaki,—is a pretty little village of nine houses and forty-
161 three inhabitants, situated on a branch of the Kamschatka River
177 close to its junction with the latter. To the south lie a few acres
361 of level grass and land enclosed by rough fencing, which give a
home-like effect and an air of permanence which is wanting in most Kamschatkan settlements; while to the west and north flows the river, its banks thickly clothed with trees. The people, although a more or less mixed race, as are those of all the villages we had hitherto visited, nevertheless exhibited strong evidences of their Kamschatdale origin, and the high cheek-bones and general duskiness of complexion were in some cases very noticeable. They were very civil and willing to help us; and later in our journey we learnt to hail the preponderance of the Kamschatdale element with pleasure, for we then felt sure of meeting with none of the surliness of demeanour and barefaced extortion that seemed to be the leading characteristics of the half-breed Siberian Russians.

322 501 from the trunk of the *topoyina* or poplar-tree. They are generally about twenty-five or thirty feet long, by two feet in beam and depth, and are made to a great extent by burning out the interior of the tree-trunk selected, the finishing only being done by means of axes. We were able to procure five of these boats, and by their aid constructed two rafts in the following manner. We lashed three together side by side, with an interval of about one foot between each, taking care to place the weakest in the middle, and on this foundation placed a platform of poles and axe-hewn planks amidships, for a length of twelve or fourteen feet. Over this platform we constructed a rough shelter-hut, with a birch-bark roof sloping away behind, and the back and sides composed of waterproof sheets which could easily be furled or removed when necessary. The other raft, which carried Louis, Cook, and our two hunters, was made in the same way, but without the hut; and owing to its having but two canoes as a foundation, was laden fully up to where its Plimsoll-mark should have been. Our natives sat at the head and stern of each canoe, wielding paddles with a spade-like handle. They were also provided with poles, the use of which, wherever the river was sufficiently shallow, they seemed greatly to prefer. Shortly before noon our preparations were completed, our men waved their adieux to the remaining three-fourths of the inhabitants of Sherowmy, and pushing out into mid-stream, we began our descent of the river.



PADDLE.

133 136 Immediately below the settlement the branches of the Kamschatka reunite to form a stream nearly as wide as the Thames at Hampton Court, but scarcely more than a foot or two in depth. The current is rather swift, but without rapids, and the only dangers to be apprehended are the snags beneath the surface of the water. In the upper part of the river there are not many, but, lower down, the tremendous freshets which occur on the

133/136 melting of the snows carry down trees of large size, piling them in enormous masses upon the banks, and depositing the water-logged trunks in the shallower parts of the river, a collision with which would probably result in the sinking of the canoe, from the liability of these craft to split. We progressed with tolerable rapidity, averaging about six versts an hour, rejoicing that stampedes were now things of the past, and that there was at least a possibility of some of our possessions reaching the journey's end unbroken. The river in its earlier course is very winding and Werchni Kamschatka, the next settlement we expected to reach, although only twelve versts from Sherowmy by land, is more than six times that distance by river. As far as our own feelings were concerned, however, we would willingly have prolonged it yet more, for weather and scenery were alike lovely. The river ran between pebbly banks lined with birches, whose white-barked stems contrasted with the brilliant gold of their foliage. Reach after reach of still water opened out to us its quiet beauty, and here and there a little gap revealed a Hobbema-like scene of sunny distance, whose clearness was unbroken by the waver of a single leaf. Far away in front rose a range of deep blue hills, jagged and peaky, patched only with snow, for their southern slopes had been thawed by the heat of the summer sun. The calm surface of the water was covered by little packs of duck, which rose in long lines as our rafts approached, and the smoke of our guns formed miniature clouds in our wake which hung motionless above the stream until the rounding of a corner hid them from our view. We paddled on silently, our natives talking but little. Now and again the warning *na pravo, na levo* (to the right, to the left) told of the neighbourhood of a snag, or a shallow bank necessitated the use of the poles; but for the most part our progress was one of uninterrupted quiet, and the laziest of Nature's lovers could have asked for nothing better than to sit and be paddled thus for the rest of his natural life.

We saw no four-footed game, with the exception of a couple of

136 yellow foxes (*Vulpes fulvus*), who sat inspecting us curiously as we floated down, and were none the worse for their temerity. According to our hunters, these animals are not nearly as common now as formerly, though from what reason it is difficult to say, as the skin is of no great value, and they are in consequence not much hunted. Ducks of the kinds I have already mentioned were in great numbers, and the Merganser (*M. serrator*) also seemed fairly abundant. It was of course impossible for us to reach Werchni Kamschatka before nightfall, so, having made about forty versts, we landed on one of the broad pebbly beaches, where the spring freshets had already collected abundant firewood
252 for us, and pitched our camp. The Sherowmy men had a simple but effective plan of cooking duck that I had never seen before. The bird is plucked with care, so as to leave the skin unbroken, and is not drawn. A stick is forced down the throat, and the other end stuck into the ground close to the fire. The effect produced when a party of a dozen are thus cooking their suppers is not a little absurd: it is as if the camp-fire had burst into a perfect girandole of naked ducks, who fly quacking from it in open-mouthed alarm.

We had hitherto been favoured with far finer weather than that usually to be expected during late autumn, but the next day dawned threateningly, and before long fulfilled its promise to the utmost. A pall of thick leaden clouds with ragged edges hung over us, and a steady downpour that showed every prospect of
161 continuance soon commenced. Hour after hour we paddled on
721 through the driving rain, and it was not until after mid-day that
361 we stepped ashore, wet and cold, at the hamlet of Werchni Kams-
R chatka. Like most of these places, it is composed of a bare dozen
of huts, with a total population of less than fifty souls; but it
177 enjoys the distinction of being the only settlement on the Kams-
.72 chatka River that is marked on the English chart of the country.
In bygone days it may have merited it, for it was one of the first *ostrogs* established by the Russians after their conquest of the

361 peninsula. Now, however, Melcova must be regarded as the
721 chief town of the interior, and its proximity—for it is only fifteen
241 versts distant—must always effectually keep its rival in check.
R We were glad to get warm and partially dried at the house of the
177 head-man before starting again for this latter place. Some few
signs of cultivation were apparent: a few potatoes and turnips,
.72 and a small field of rye, the first cereal we had met with since
our arrival in the country. It looked miserable enough under the
pouring rain, and probably had little if any chance of ripening.

133 Three more hours of rain and paddling brought us to Melcova.
136 It was almost too wet for shooting, but we noticed two or three
226 small parties of the red-necked Phalerope (*L. hyperboreus*) on our
passage. Those that we obtained were in autumn plumage, and were most probably on their way to warmer latitudes. But few duck were to be seen. They had in all probability betaken themselves to the marshes at the onset of the rain, and the river was devoid of life. Before reaching the village an elaborate arrangement of fishing-stakes gave warning of the presence of what in Kamschatka may be termed civilisation. The stakes stretched right across the stream from bank to bank, but we found a small gap at the side sufficient to admit of the passage of a single canoe, and capable of being still further enlarged by pressing down the stakes. The arrangement for taking the fish consisted in the construction of small *currals* at intervals of about fifteen yards. These were long bottle-shaped baskets on the lobster-pot principle, furnished with doors opening at the lower end, by means of which the fish could be secured by gaff or otherwise. We learnt that there were very strict rules with regard to the complete barring of the river at this spot. The inhabitants are obliged to leave a free passage for the fish at the time of their first arrival in the spring, and also on certain days in the week or month at a later period. But for this arrangement the people of Sherowmy and Werchni Kamschatka would of course be without means of subsistence during the winter months.

Hitherto we had been able with the greatest ease to shoot as
136 many duck as were daily required for our party. At this part of the river, however, there were much fewer, but the birds of prey had considerably increased in numbers. The Ernes (*H. albicilla*) and Hobbies (*H. subbuteo*) were most common, and we procured a fine pair of the former. Neither of these species was shy, but it was only with considerable difficulty that we were able to get within shot of the Ospreys, which we found hawking the river in pairs, but less abundantly. We also shot a specimen of the Red-throated Diver, but our ornithological collection progressed but slowly, the number of species presenting themselves being extremely limited. In spite of the apparent absence of fish—for here but few lay dead upon the banks—the spoor of bear was as plentiful as ever, and an occasional one was more than once visible as we floated down. But unfortunately our journey had now resolved itself into a race against time, and delay was out of the question.

000 We broke camp long before dawn on the morning of the 6th September, and were afloat once more at 6.30 A.M. The morning was fine, but bitterly cold, and as the sun rose, the trees and long dank grass, glittering with the thick hoar frost, presented a rather more wintry scene than we desired. We were glad enough to seize the paddles and get what exercise was possible, and after two or three hours' sharp work we arrived at a bend in the river where a birch-bark hut and two or three canoes appeared to indicate the neighbourhood of a settlement. Not a soul was to be seen, but we learnt that Tschappina—a little hamlet of six houses—lay some five or six versts distant from the river, and at once despatched Afanasi to get what men he could. In three or four hours he returned, accompanied by four natives, but only two canoes were fit for use. The Mashura men, after some talking, offered one of theirs for the modest sum of forty roubles, and after half an hour's wrangling, we eventually became the purchasers for thirty. Its actual market value was less than ten, but we felt that if we could only get two more, we should be entirely independent of the natives, and considered it cheap. A further row then took place with

[i.e., below Mashura--analyst]

000 during our river journey nearly spoilt what was otherwise a very pleasant expedition.

We landed for a meridian altitude, and improvised an artificial
horizon by means of a bucket of water. The banks were low and
flat, and frequently intersected by muddy creeks, while the birches
and firs had almost disappeared, giving place to the willow and
136 wild cherry. I have rarely seen more impassable ground than that
137 close to the river.[1] The coarse grass rose high around us, preventing
the possibility of seeing anything—a condition which obtains in almost every part of the country; but an additional and far more effectual barrier to our progress existed in the shape of a thick tough brushwood which clothed the irregular ground with a network of small boughs, catching our feet firmly at every step. Later, at Cape Shipunsky on the south-east coast, we found the country even more impracticable. The bears, however, manage by their great weight to force themselves through this thick cover with little apparent difficulty. Just inside the forest, at a distance of six or eight feet from the river-bank, is a firmly-trodden path some two feet in width, made entirely by these animals; and as these paths are to be found without a break on either side of the river in its whole course through the forest country—a distance of about 500 miles—it will be understood why bears' skins do not command any very high price in the peninsula.

The procuring of a sufficient quantity of duck for our daily needs became at this period a rather difficult matter, the main river being deserted by them for smaller streams and marshy pools in its vicinity. Sea-birds became more numerous; a tern (*Sterna longipennis*), two or three phaleropes, or the Red-throated and Black-throated Divers (*C. septentrionalis* and *C. arcticus*), were to be met with from time to time. We also shot a *Podiceps*, which seemed to be identical with our own Red-necked Grebe.[1] On the banks an

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[1] According to Mr. Seebohm, the eastern form of *P. rubricollis* is conspicuous for its larger size, and especially for the greater length and stoutness of the bill; and the measurements of the above-mentioned specimens certainly bore this out.

[the Kamchatka River above Kojerevsky--Analyst]

136 eastern form of the Pied Wagtail (Kittlitz's *Motacilla lugens*) was
extremely numerous; the Yellow Wagtail much less so. But of all the land birds the Kamschatkan Marsh Tit (*P. kamschatkensis*) was at this part of the river by far the most abundant. For two or three days we saw them in flocks of from fifty to a couple of hundred individuals, streaming northward along the bank from tree to tree.

133 Shortly after mid-day we passed the mouth of a river joining the Kamschatka on the right bank. The natives knew it as the Kojerevska. It is a stream of some size, being apparently of considerable depth, and having a breadth of forty yards at its junction with the main stream. As far as we could gather, it drains the opposing slopes of the Tolbatchinska and Kojerevska volcanoes.

We reached the little hamlet of Kojerevsky at nightfall. The
distance from Tolbatchik, the scene of the last rows we had had
with the natives, is only ninety-one versts instead of two hundred,
and we might with perfect justice have reduced our payment to half
of the sum we had promised. But, to tell the truth, we had become
so wearied of the endless wranglings in which we had been
involved in all our dealings with these wretched people that we
paid them without a word. It was better to let them think that
they had deceived us than for them to imagine that we had
262 weakly yielded to what we knew to be an imposition. We were
144 pleased to find that the Kojerevskans exhibited strong evidences of
their Kamschatdale descent. We were received by the head-man,
a little brown fellow with bright eyes; and under his direction the
people did everything in their power to help us, carrying up our
baggage, bringing us wood, and altogether showing us an amount of
civility that was as new to us as it was agreeable. They provided
us with wild cherries, cranberries, potatoes, turnips, milk, cream,
and butter, and last, but by no means least, with a loaf of coarse
rye bread, which, we heard, had been specially prepared for the
Kluchi pope, who had been expected to pay the settlement a visit.

000 we paddled out into the current, and in another ten minutes the village was lost to view.

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In Findlay's "North Pacific Directory" it is stated, though upon what authority is not clear, that the Kamschatka River "is said to be capable of admitting vessels of 100 tons about one hundred and fifty miles up the stream." This, however, is not correct, or at any rate is very misleading, for the river is beset throughout with sand-banks which in many places apparently lie completely across the stream. Thus, opposite Kluchi village there was only an average of seven feet of water, while both above and below we got depths of twenty or thirty feet and more. The sand-banks also are very unexpectedly placed, and the navigation of the stream by a large vessel, even if possible, could only be accomplished by the aid of an elaborate system of buoys, which, I need hardly say, is not likely to be instituted for many a year to come. From some versts above Kluchi to the mouth of the river, except at the Tchoaki or narrows, to which I shall have occasion to refer presently, many islands are formed by the bifurcation of the stream, some of them of large size, and the river increases considerably in breadth. Opposite the village it is said never to freeze entirely over, a fact the people attribute to the existence of hot springs in the river bed. They also told us that salmon remain here throughout the winter, though not in any great numbers.

Among these islands there appeared to be more duck than we had been lately accustomed to see in the lower part of the river, and we here obtained the Shoveller (*S. clypeata*) for the first time. Landing to replenish the larder at some small lakes towards the hour of sunset, we remarked both snipe and wild geese, neither of which we had previously met with, but it was too dark to distinguish the species. 000 Verglaski followed us on occasions such as these with the stolid expression and steady gait he always affected. Nothing short of a bear, I believe, ever roused him to any less dignified pace than a walk, and as he slowly followed us, I had a lurking suspicion that he regarded our occupation as a rather

000 a Swede—an agent of Mr. Phillippeus the fur-trader, and a crew of four Japanese. They told us that nothing had been seen of the

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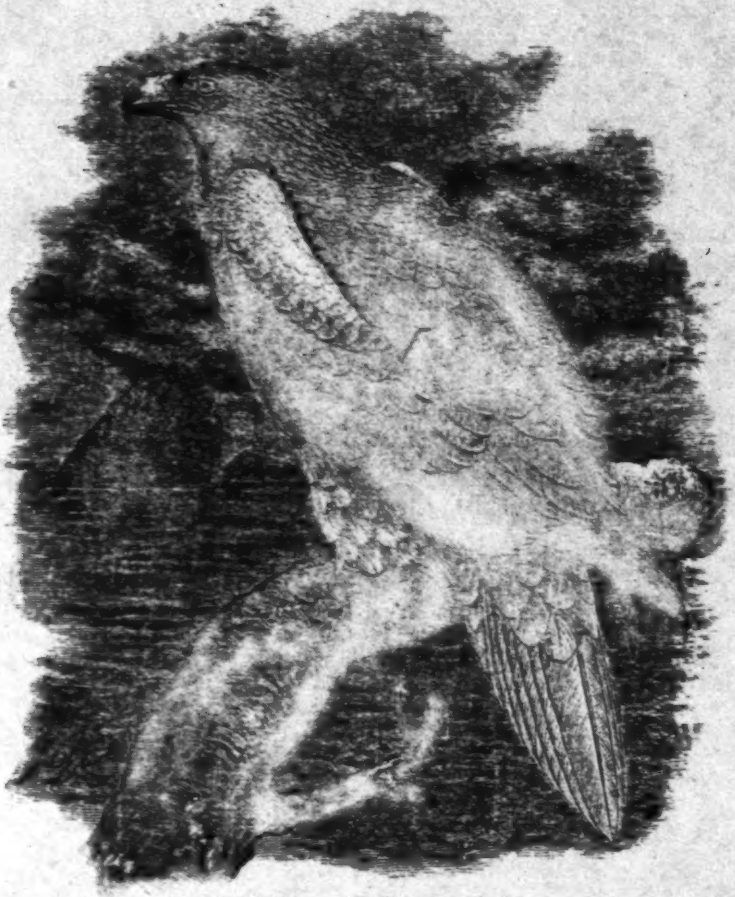


PALLAS'S EAGLE. (*Thalassaëtus pelagicus.*)

000 yacht, and could give us no news of the civilised world, having been for some time lying in the river; so, after wishing them *bon voyage*, we continued our journey.

136 Since leaving Kluchi we had spent a good deal of time in trying to obtain a specimen of Pallas's Northern Sea Eagle (*Thalassaëtus pelagicus*)—a species which, at this part of the river, is by no means uncommon. It is a magnificent bird, and is especially conspicuous from the large white shoulder-patches and tail, but owing to its shyness it is extremely difficult to approach. We were, unfortunately, not provided with a rook rifle, and the few long shots we obtained were unsuccessful. Once only did we get a bird fairly within shot, and the two barrels of No. 2 that he received at a distance of thirty yards seemed to have no effect whatever upon him. This eagle appears to be chiefly confined to the lower part of the Kamschatka River, for we did not meet with it before reaching the neighbourhood of the great volcanoes.

226 252 262 The natives are prevented by law from barring the river in the lower part of its course, and here the salmon are taken chiefly with seine and drift nets. The V-shaped curral-trap of stakes, with baskets on the lobster-pot principle, is also frequently seen; a system which, as I have already stated, is used to bar the river right across at Melcova. The fat of the Kisuchi salmon is regarded as a great delicacy, and is prepared in considerable quantities at this season. A canoe is filled with water, and a number of the fish placed in it. Into this large red-hot stones are dropped, thus boiling the contents, which are meanwhile constantly stirred. The fat is then removed as it rises to the surface.

133 224 The low and muddy shores of the river in this part of its course are in many places intersected with small creeks, at the mouths of which two tall poles may often be noticed. These are used for taking ducks at flight time, by a plan which is not uncommon in other parts of the world. A fine net is hung between the two poles, which the hunter lets fall as the birds fly against it. By this means we were told that large numbers are often caught.

000 We woke on the morning of September 15th to a most miser-

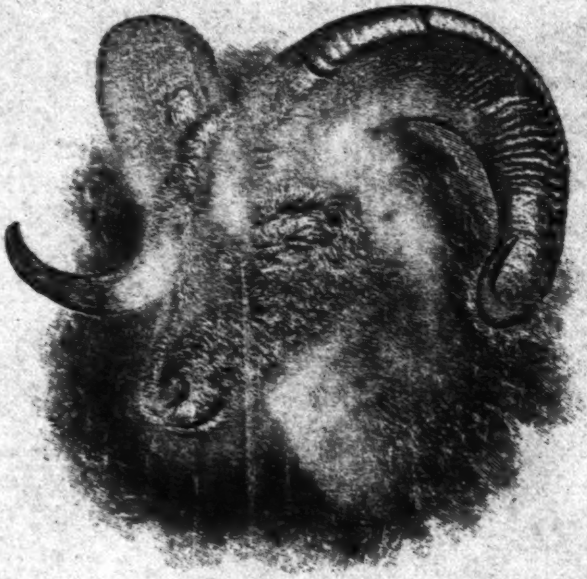
000 across, yet, absurd as it may seem to those of my readers who have had no experience of the denseness and impassability of the vegetation in these and similar regions, I more than once wondered if I should ever get through. I have certainly never been more completely exhausted than when I finished the last yard and rolled helplessly upon the grass on the other side.

After a rest on board the yacht I rowed along the coast to pick up the game, two of which had rolled down five or six hundred feet upon the beach below. Passing beneath the cliff at the entrance of the bay, we witnessed the death of a bighorn under unusual circumstances, for the animals are in general as sure-footed as a chamois. A couple of them had been driven into a corner by some of our party at the top of the cliff, but one broke back almost immediately. The other, perched on a little pinnacle at the edge of the precipice, seemed about to follow its comrade, but hesitated, turned, and ran back. As it did so its foot slipped. It checked itself for a moment, slipped again, made one desperate effort to regain its footing, and was over in an instant. The creature never moved a muscle as it fell, and hit the rocks four hundred feet below with a dull scrunching thud, breaking one of the massive horns short off, and converting the hind quarters into a shapeless, bleeding pulp.

Before dusk we had got on board no less than nine bighorn, and the yacht's decks were more like a butcher's shop at Christmas than anything else. We were busily engaged in measuring, skinning, and weighing during the evening, and when, wearied with the day's exertions, we turned in for a well-earned night's rest, we looked forward to the prospect of equally good sport on the morrow.

136 The general colour of the Kamschatkan Wild Sheep (*Ovis nivicola*, Eschscholtz) is a brownish grey, and the hair of those we obtained was very long and thick, so much so that we concluded that the animals had assumed their winter coat. The head and neck are more distinctly grey than the rest of the body, the forehead

is marked with an ill-defined dark patch, and the lips are nearly white. On the anterior aspect the legs are of a dark glossy brown, but posteriorly a narrow white line runs down the entire length of the limb. The tail is short and dark brown; the rump and the centre of the belly pure white. The ears are remarkably short.[1]



KAMSCHATKAN BIGHORN. (*Ovis nivicola.*)

The Bighorn in Kamschatka appears especially to frequent the

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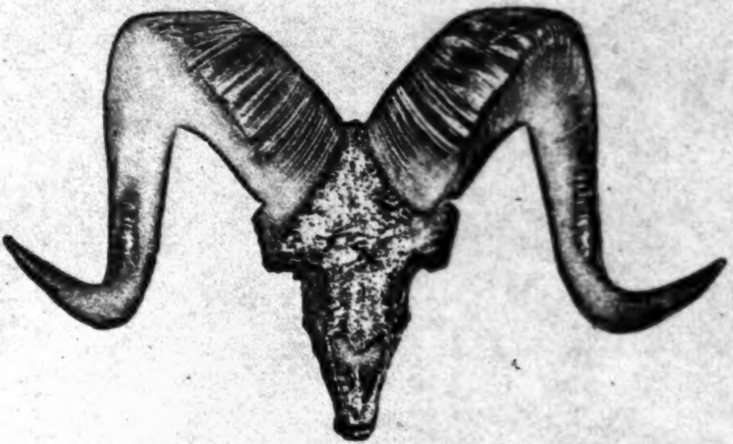
[1] Sir Victor and Mr. Basil Brooke in their article on Asiatic Sheep in the "Proceedings of the Zoological Society" (1875, p. 509), remark on the resemblance of the horns of this species to those of the American Bighorn (*Ovis montana*), with which, indeed, it has by some naturalists been regarded as identical. But the uniformly smaller size of the head, the shortness and great breadth of the skull in its anterior aspect, the slight development of the pre-orbital *fossa*, and the protuberance of the orbit itself, serve markedly to distinguish the Kamschatkan species. The horns are less rugose than those of *O. montana;* their frontal surface is convex; the orbital surface at first concave, then flat, thus causing the fronto-orbital edge to be very sharp. The nuchal surface is convex, and afterwards flattened, and the two remaining edges are rounded.

136 precipitous slopes of the sea-cliffs, though it is met with in some numbers in the interior of the peninsula. We had evidence of its occurrence in the mountain ranges near Gunal and Narchiki in the



SKULL OF *Ovis Nivicola.*

The following are the measurements obtained from a series of nine skulls:—

	Inches.								
Length of skull	10½	10½	9¾	10¼	10¾	9¾	10½	10¼	...
Breadth between orbits . . .	5¾	5⅝	4⅝	5½	5¾	5½	5½	5¼	...
Length of horns round curve . .	35	34¾	24	32¼	35½	36	32½	26½	35
Circumference of horns at base .	13¼	14½	13	14	14	13½	13¾	12½	13¼
Horns from tip to tip . . .	21	25	17½	21	26¾	26	22½	21½	25½

Measurements in the flesh of twelve specimens, all of which were adult males, were also taken, and are as follows:—

Supposed age (years)	3	3	5	5	5	5	6	6	6	6	6	6
Extreme length .	65½	63	62	64	64	66	66	65	66	66	67	67
Greatest girth . .	53	53	56	54	55	...	56½	...	54	53	54	55
Height at shoulder .	38	39	38	39½	37	...	40	41	40	37	40½	39

136 Bolcheresk Valley, and it probably exists at low altitudes on the great volcanoes near the mouth of the Kamschatka River. Every one of those we shot was a male,—their ages ranging, as far as we could judge, from three to six years. They kept in small herds of from three to nine individuals. As in the case of others of the same genus, the females and young males doubtless keep apart, but we were not fortunate enough to discover their habitat, neither could we obtain any information about them from the natives.[1]

Early next morning the most enthusiastic of our party proceeded in the lifeboat to the ground of the preceding day, hoping to add still further to the bag, while two of us started to explore the
133 magnificent harbour at the entrance of which we lay. Betche-
136 vinskaya Bay, the position and extent of which is but roughly
indicated in the Russian charts, is a narrow inlet some five miles in depth, girt with precipitous cliffs of three or four hundred feet for the seaward third of its extent. At this point two low and narrow strips of beach run out from the base of the cliffs on either side, leaving a passage barely fifty yards in width in the very centre of the fjord, but deep enough to admit a vessel of the largest size. Within this the cliffs disappear, and an extensive and perfectly landlocked basin is entered, surrounded by high hills sloping gradually to the water's edge—as good a harbour as it is possible to imagine. Of the mode of formation of the two promontories I have just alluded to I can offer no explanation. They are so unnatural in appearance, and so closely resemble artificial breakwaters, as at once to attract the notice of the most careless observer. The long spit of beach running out at the entrance of Petropaulovsky harbour is of exactly similar formation, and the same phenomenon is said to occur at other places along the coast. Nature is not very lavish of her harbours on these shores, but the few that exist are excellent.

As we entered, the placid surface of the inner basin was dotted in every direction by the square black heads of seals, of which

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[1] Cf. article by the author *On Ovis nivicola*, "Proc. Zool. Soc.," 1885, p. 675.

133 there appeared to be enormous numbers. But as we intended to
136 try for bear at the head of the bay we left them in peace. The wind, however, sprang up and blew directly inland, and all chance of sport being under these circumstances reduced to a minimum, we reluctantly returned. That bear were very abundant in the neighbourhood was evident from the numberless fresh tracks, and from the fact that we saw seven in two days, but owing to their shyness and the dense undergrowth they frequent, they are not easy to shoot. We had therefore to turn our attention to the seals, whose skins Jacof seemed anxious to obtain. They were the ordinary *Phoca vitulina* of our own coasts, or a very closely-allied species.

Landing on the natural breakwater on our way back, we were astonished to find a spring of fresh water close to its extremity. The pools formed by it were covered with teal and other duck, and with these and a stray golden plover or two we had good sport. The place seemed to be a favourite resort of bears, who had formed
000 numerous paths to the spring; but ill-fortune once more attended us, and we had to be content with a distant view of one of these animals, who made off at full speed. We returned to the *Marchesa* to find that considerable additions had been made to the bag by the other party. Four more *Ovis nivicola* and a walrus had been killed, the latter carrying very fine tusks, nearly two feet in length. Hunting these creatures is after all but a sorry business. In order to afford sport an animal should either fight or run away. The poor walrus does neither—at least to any purpose—and having once killed one, no sportsman would care to repeat the performance.

I have been led to describe the events of our two days' visit to Betchevinskaya Bay as an illustration of the abundant sport to be obtained in Kamschatka. Our total bag consisted of one walrus, fourteen bighorn (one, falling in an inaccessible place, was not brought in), and some seals, besides teal, duck, and golden plover. Had we been ordinarily fortunate we should also have obtained two bears, which, though badly hit, managed, owing to the

24: Lansdell-636-637 M-2 (1879) 1882 Kamchadal-1-2
116, 136, 231, 492

" Among the animals of Kamchatka there is none with which the traveller becomes more familiar than the dog, which is found wild on the hills. The color is usually buff or silver-grey, and in nature and disposition he resembles the mastiff and the wolf, [637] sleeping, like the latter, more by day than by night. He is intelligent as regards his work, but not affectionate, as may be said of the steppe dogs, and has to be ruled by the rod. It is not usually safe to leave these dogs loose, for they kill fowls, deer, smaller dogs, and sometimes even children. (1) As on the Amur, they are usually fed on fish,

> 1. They love sledging, and upon a journey of four or five days will work from 14 to 16 hours out of the 24 without tasting food, the idea of their masters being that, when travelling, the less food the dogs receive, short of starvation, the better. The travelling sledge weighs about 25 lbs. (a freight sledge is heavier), and a good team will travel from 40 to 60 miles a day. When running, they must be paired with dogs known to each other from puppies; and, should they happen to cross the scent of a deer, so fond are they of its flesh that they sometimes become utterly unmanageable, upset the sledge (or nartee, as it is called), and leave the driver, it may be, to perish in the snow.

particulary the salmon, besides which there are caught in Kamchatka, or off its coasts,

24:Lansdell-636-637 M-2 (1879) 1882 Kamchadal-2
116, 136, 231, 492

the cod, herring, smelt as also whales, walruses, and seals. The country abounds with geese, ducks, and a variety of wild fowl."

27: Sauer--293 [2] T-2 (1789-93) 1802 Kamchadal
116, 133, 136, 137

"The western coast of Kamtshatka is uniformly low and sandy, to the distance of about 25 to 30 miles inland, where the mountains commence. It produces only willow, alder, and mountain-ash, with some scattered patches of stunted birch-trees. The runs of water into the sea from the mountains, do not deserve the name of rivers (except the Bolshoia Reka), though they are all well stocked with fish from the sea in season, as trout and different species of salmon. They are generally at the distance of 15 to 20 miles from each other. The Itsha and Tigil are the most considerable; and neither of these have a course, with all the windings, of more than 100 miles.

The sea is shallow to a considerable distance; and the commanders of the transport vessels, who never lose sight of the exposed coast if they can help it, judge of their distance from land, in foggy weather, by the soundings, allowing a fathom for a mile; nor is there at the entrance into any of the rivers more than six feet at low water, with a considerable surf breaking on the sandy beach."

27: Sauer--298 T-2 (1789-93) 1802 Kamchadal
116, 133, 136, 137, 161

"Near the mouth of this harbour [CMC: of Tareinsk in Avacha Bay], on its north-west borders, is a valley forming a plain of about one mile and a half square, well wooded with good sized birch trees: a situation which Major Behm thought the most eligible of any hereabouts for a town. North and south are lofty mountains of easy ascent, covered with trees to their summit. The valley is bounded to the west by a fresh water lake of about 15 miles in circumference, well stocked with fish all the year through; while its borders abound in different kinds of berries, sarana, tsheromtsha (a kind of wild garlick), and a variety of pot herbs. This lake is the chief source of the river generally known by the name of the Paratounca, of which I shall shortly give an account, as also of the other rivers. The remains of numerous villages in the vicinity of this lake strongly indicate the former popolousness of these parts; but they are at present overrun with bears, wolves, and hares."

27: Sauer--298 [2]   T-2   (1789-93)) 1802   Kamchadal
116, 136, 226

"The fish of the bay of Avatsha are, cod all the year through; thornbacks, flounders, and halibuts, as soon as the ice begins to break; whitings are caught all the winter by the boys and girls, who make a hole in the ice, lie flat upon it, and look into the water, holding in it a horse-hair noose on the end of a stick, which they get round the fish, and by these means haul them up very fast. Herrings and smelts are the first passage fish that appear (the former in immense shoals towards the latter end of April), and they remain till the beginning of June: their numbers, indeed, are incredible."

27: Sauer--299-300 T-2 (1789-93) 1802 Kamchadal-1-2
116, 136

"On the 7th June, in the inner harbour of St. Peter and St. Paul, I observed, at the flood tide, a considerable number of herrings swimming round in circles of about a fathom in diameter. Seeing them continue in this particular manner, I approached very near them, and remarked, in each of the circles, one fish very close to the ground, upon the weeds, and apparently without motion. I could not account for this peculiarity in their swimming, but thought that the weeds about the herring in the middle became of a very lively yellow colour. When the tide ebbed, and left these places dry, all the weeds, stones, sticks, &c. were covered with spawn about half an inch thick, which the dogs, gulls, crows, and magpies, were devouring with great avidity. These shoals of herrings, which are pursued by seals, cod, &c. come in spring and in the autumn; there is, however, a considerable difference in their size; and I believe the spring glut are the largest fish. The natives and other inhabitants ensnare a great quantity in autumn for their dogs.

The oil extracted from herrings is very pellucid and sweet; it preserves birds' eggs all the year quite fresh and good, as does also the oil of seals, whales, &c.

Herrings no sooner disappear, than immense shoals of salmon push into the bay and up the rivers; the first is the smaller sort, called the gorbushka (or hunch-back), from a remarkable protu-[300]berance which distinguishes this species. They are in great perfection about four or five weeks; and are no sooner in a state of decay, than another and larger species follows. These are succeeded by other sorts, all of the salmon kind,

27: Sauer--299-300 T-2 (1789-93) 1802 Kamchadal- -2
116, 136

until the end of September. I could not distinguish some sorts till they were boiled, when the paleness or redness of the flesh indicated a difference. The names of the different species are siomga, tshavissha (both very large), gorbushka, kaiko, krasnaia (red), and belaia (white). They push up the rivers, and get into the lakes, where the two latter continue all the winter, but get extremely deformed, crooked-backed, thin, and covered with red blotches; the upper jaw extends beyond the under jaw, and bends over it; the mouth is full of very large teeth, and the flesh is flabby. Here are also great varieties of crabs, sea eggs, prawns, muscles, cockles, and the small pearl oyster."

27: Sauer--300-301 T-2 (1789-93) 1802 Kamchadal
116, 133, 136, 137

"The plains of Avatsha, which bound the bay to the north-west, extend 18 miles from east to west, and 35 miles from north to south, producing at their northern extremity only a few patches of birch, poplar, and alders; all the rest are marshy grounds, overgrown with rushes and coarse high grass, with some spots of oziers and alders; the resort of myriads of water fowl, swans, geese, an amazing variety of the duck kind, and I believe every species of snipe. The river Avatsha runs in several branches through this plain. Towards its northern extremity are an immense number of cold springs, that form several basins of water, with small runs, uniting in a rivulet, which has a course towards the south of two miles, and empties inself into the river generally known by the name of the Paratounca, but which is called by the natives Ilmitsh; and the original Paratounca is the run from the springs above mentioned, opposite to the discharge of which the village of that name is situated. These springs do not [301] freeze in winter, during which season they are frequented by swans, geese, and several species of duck, particularly the safka, or duck with a melodious note, which has induced me to stile it musical. Here they find an abundance of food, and the pulpy root of an aquatic plant which, in its appearance, exactly resembles the olive, but is like the chesnut in flavour: I used it as a vegetable, and thought it better than any production of the gardens; the natives call it the sarana of the geese."

27: Sauer--302 [2] T-2 (1789-93) 1802 Kamchadal
116, 133, 136, 777, 825

"Here are no lakes of any extent: the names of the principal ones are, Osernoi, about 40 miles from Cape Lopatka; Kronotskoi, 20 miles south-east of Tolbatshinski volcano; and another of less extent, situated about 40 miles north of Neizshni Kamtshatka, called Nerpitshi: the natives say that they are replete with fish; and tradition relates, that the fish of these lakes had two heads, or that they possessed legs; and, being sacred to some deity or demon, those who presumed to ensnare them were punished with misfortunes: some of the natives, however, seem to doubt the truth of this, while others still firmly believe it."

28: Sarytschew--60 T-1 (1789-90) 1806 Kamchadal
116, 136, 224

"At the entrance of the bay of Awatska, we passed a light-house, erected on a lofty rocky prominence, on the left of which was an insular mountain of stone, called Staritschkow, after the name of a bird that frequents it in great abundance. The staritschkow is a bird about the size of a pigeon, with a bluish bill, and small feathers, of a bristly kind; its head is of a purple colour, having a circle of white feathers in the middle, which are thinner and longer than the rest. Its neck is black above, with white spots underneath. Its body is white, the short large feathers of its wings blackish, and the rest blue; its sides and tail black; its feet red, and trebly indigited with a web between each, and its claws black. On the little islands of Kamtschatka they are found in vast numbers, and are caught by the Kamtschadales with great facility. Besides this bird, there are also sea-parrots, mews, and urilas, the latter of which paid us a visit of curiosity as before, and then disappeared."

28: Sarytschew--62 T-1 (1789-90) 1806 Kamchadal
116, 135, 136

"By some beds of rock in this peninsula [CMC: at the entrance to Petropavlovsk harbor], we discovered green jasper marl, on which were the representations of shrubs or trees; we also found, in the crevices of the rocks, some layers of amaranth, not very large, and remarkably thin.

For some time after our arrival, there was no fresh fish to be had. In the beginning of November, we began to catch wachnas in abundance, and occasionally herrings. The wachna, (Gadus æglesinus), is a sort of stock-fish, about half a yard in length, with a roundish body; and three dorsal fins. When taken out of the water, it is perfectly of a copper colour, but soon turns quite pale. Its flesh is white, but soft, and not pleasant to the taste. The roe is, however, of a fine texture, and has the best flavour. It is an inhabitant of the European Ocean, but most frequently found in Kamtschatka."

000 sent holder, who, though I feel assured he appre-
ciates it highly, yet would not retain it, should re-
lations, or others more nearly concerned, express a
desire to be possessed of so valuable a memorial.

133 From Kharchina the route lies over a large lake,
137 and thence over a fine open country, abounding
361 with some of the finest fir-trees I have ever seen,
reaching to the height of sixty and eighty feet. At
twenty miles we reached the ostrog of Kamennoy,
on the right bank of the Kamtchatka, and, chang-
ing dogs, proceeded twelve miles farther to Kama-
136 kie over numerous lakes near the river. The coun-
361 try here abounds with red foxes, and is certainly
one of the most picturesque parts of the Peninsula:
the beautiful view of the Sopka, or Peak of Cliu-
chie, was hid in the clouds. I movedon to wards
Nishney Kamtchatsk, also an antient capital in the
Peninsula, a far more eligible place than the pre-
000 sent site. The weather had now become very mild,
no less than 3° of heat of Reaumur. We made
good about seven miles of our journey through
very deep snow by the ensuing morning. For three
hours we did not move forward more than one
mile, a heavy fall of snow had taken place, and it
was found impossible to proceed, owing to the ex-
traordinary heat of the weather. No track nor scent
offered to the dogs, otherwise I would have per-
sisted in the prosecution of my journey. The drivers,
however, with snow shoes actually sunk eighteen
inches deep in the snow, and I was therefore com-

137 enough to bear the nartes. I crossed two other
small rivers by bridges for that reason. The scenery
was very beautiful, a lofty range of mountains lay
to the east with a good deal of fine timber, while
the flat country is one fine uninterrupted meadow,
361 without a single cow to feed upon it. Stchappinat
161 has seven dwellings and fifty-two inhabitants, and,
136 it is said, the finest fish in the peninsula, though but
226 few are actually procured from it: they are considered
so delicious that the inhabitants send them
to the seat of government as presents to the chief
and officers. The causes of their comparative scarcity
are probably the depth and rapidity of the
river, as well as the smallness of the nets; for unless
the river be actually swarming with fish, it is
seldom that the inhabitants can provide themselves
with a sufficient supply.

137 To Massura are forty miles of a well wooded
361 country, and fine meadows upon the banks of the
161 river. I almost flew the distance, being scarcely
234 six hours in performing it. There are ten dwellings
and sixty people, civil and hospitable to a proverb;
a considerable quantity of cattle are in the
neighbourhood, feeding on a rich pasture which
runs to Kirgannick twenty-five miles further, where
I got sight of the magnificent mountain scenery
over hanging Verchney Kamtchatsk. One Sopka
361 (Peak) is especially remarkable. Milkova, a
563 Russian peasant village, ten miles distant contains
fifteen houses and one hundred and twenty inhabit-

251 the sterility of the soil, operate also to prevent
263 the inhabitants from laying in a sufficient store of
439 winter provisions, which as they consist of fish are exposed to the air to dry, and in a short time become so rotten and maggotty, that but a small quantity can be made serviceable for the consumption of the people; the rest is retained for the dogs. Salt is at present issued, but not in sufficient quantities; were that article more liberally distributed, the people might in some years prepare fish to last them several successive ones. From the quantity now supplied by the king of the Sandwich islands, it is to be hoped that the first productive season will be taken advantage of.

137 Of wild vegetables, some of which are mixed
262 with the bark of trees for the fare of the inhabit-
439 ants, there is an abundance in Kamtchatka, and there is no doubt that greens, turnips, and radishes might with a little trouble be every where produced. Wild berries and wild garlick abound; the latter is exported to Okotsk and Yakutsk: this plant is one of the finest antiscorbutics known, but has a peculiarly offensive smell.

136 The principal riches of Kamtchatka may be said to consist in the animals of the chase, of which there are so prodigious a number, that there are not sufficient inhabitants to take them. The most valuable are foxes of various colours, a few sea and more river otters, with an immense number of sables. Bears, wolves, rein-deer and mountain-

136 sheep, and sometimes a few lynxes, are also to be
438 found. The number of skins annually exported
439 and consumed in the peninsula is about thirty thousand, of which sables and foxes form the principal part. The sables are considered at once the warmest and the coarsest known; the foxes however, especially the fiery red, are of the finest species.
231 Next to these furs, the dogs of Kamtchatka may be considered as forming a great part of their riches. These faithful and useful animals, are employed to transport fish, supply the house with water, the cattle with hay,—in short to do all the work that horses perform in England. They are fed as circumstances may dictate, being always left to shift for themselves from June to October. They are of a coarse appearance, in shape resembling a common house-dog, but endued with great sagacity, and it is to be regretted that they are not relieved a little by the importation of horses.

136 Independent of fish and wild animals, the Kamtchatdales derive also a considerable benefit from the surprising quantities of geese, ducks, swans,
251 snipes, and wild cocks. They are preserved by
262 dipping them in water, which freezing, they will be good as long as winter continues; at other times they are salted. The ducks and snipes are most excellent; but the geese, swans, and wild sheep are considered venison, and of the most delicious kind too, by those who are termed epicures; for myself although I have frequently partaken of them,

164 posed to have fallen victims to it within a short
758 period. Yet at this moment there is a want of
R vaccinating matter, nor is it a questionable asser-
177 tion that the quality of medicines in the hospitals
.75 is shamefully adulterated, and the quantity small.
The present worthy chief has however caused an inquiry to be made upon this subject, and the result has been transmitted to government. But it is not the small pox alone, that the arrival of the Russians introduced into this place; the distemper before alluded to has made, and continues to make, most dreadful ravages in every part of the peninsula, very few families being free from the taint, and no part of the world can show more miserable objects of its fury. The whole race indeed look like beings better qualified to extinguish than propagate the human species; nor is this surprising, considering their present state, almost without hospitals, medicines, or attendants, save that ill-managed house at Malka.

136 Besides these two diseases, the inhabitants of
146 Kamtchatka are subject to all those which make
262 havoc in countries where the people are ordinarily
489 ill fed, ill clothed, and liable to famine. The last
has frequently visited this Peninsula, more from a want of people than of food; for fish is not always to be had upon both sides of the Peninsula at the same time, and they have not the means of transporting the superabundant quantity to the opposite coast.

631 money as possible. The very shortest term of a
R chief's command at Kamtchatka should be ten
177 years: let him then only be liberally paid, and I
.63 will venture to say, that many suitable characters
will be found, who will prefer to administer justice with clemency and honor, to the degrading of their characters by a mean and derogatory traffic. If an increase of rank, double pay and provisions, an extra pension, and the most unlimited powers are not sufficient to ensure a just discharge of the duties, what besides conscience ever can induce it?

136 Of the Kurile Islands, though they are not now
161 in the government of Kamtchatka, having been
651 ceded by the Emperor in property to the American
R Company, I shall make but a very few remarks,
177 and with them close my observations on
.65 Kamtchatka.

This chain of islands is divided between the Russian and Japanese empires; of those belonging to the former empire, but few are inhabited. The first Kurile, situate at sixty-five miles from Cape Lopatka, has three yourtes, with four males and eight females, nominally paying as tribute six sea-otters and twelve roubles in money; but, as no sea-otters are found, and the islands abound in foxes, seven of these are received in lieu of them. There is in the island a tolerable road-stead for small craft on the NW side. Immense
237 quantities of waterfowl, as ducks, geese, and swans,
291 frequent the place; and from the skins and feathers

136 first and second isle, to bring the tribute and furs. Foxes are said to be the only animals of the chase, and here they abound in all colours. Sea otters were also formerly taken, and still, at intervals, visit some of the islands. Excepting those caught near Nishney Kamtchatsk, they are considered the most valuable of the species.

[on the norther Kuril Islands--Analyst]